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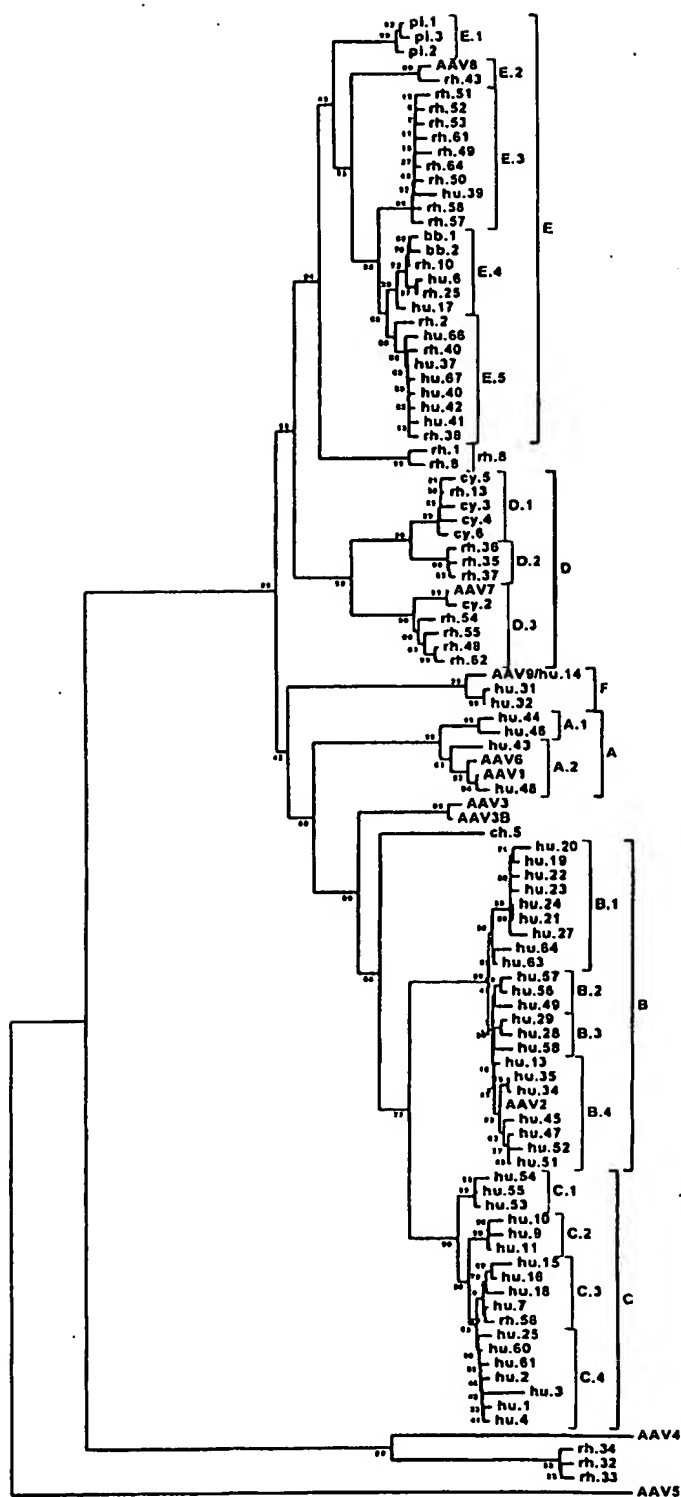


FIG. 1

[illegible]

FIG. 2A

hu. 27-B	1	MAADGYLPDWLEDTLSEGIRQWWKLPKPGPPPPKPAERHKDDSRGLVLPGYKYLGFNGLDKGEPVNEADA
hu. 21-B	1	MAADGYLPDWLEDTLSEGIRQWWKLPKPGPPPPKPAERHKDDSRGLVLPGYKYLGFNGLDKGEPVNEADA
hu. 22-B	1	MAADGYLPDWLEDTLSEGIRQWWKLPKPGPPPPKPAERHKDDSRGLVLPGYKYLGFNGLDKGEPVNEADA
hu. 23-B	1	MAADGYLPDWLEDTLSEGIRQWWKLPKPGPPPPKPAERHKDDSRGLVLPGYKYLGFNGLDKGEPVNEADA
hu. 7-C	1	MAADGYLPDWLEDTLSEGIRQWWKLPKPGPPPPKPAERHKDDSRGLVLPGYKYLGFNGLDKGEPVNEADA
hu. 61-C	1	MAADGYLPDWLEDTLSEGIRQWWKLPKPGPPPPKPAERHKDDSRGLVLPGYKYLGFNGLDKGEPVNEADA
rh. 56-C	1	MAADGYLPDWLEDTLSEGIRQWWKLPKPGPPPPKPAERHKDDSRGLVLPGYKYLGFNGLDKGEPVNEADA
hu. 9-C	1	MAADGYLPDWLEDTLSEGIRQWWKLPKPGPPPPKPAERHQDNRGLVLPGYKYLGFNGLDKGEPVNEADA
hu. 54-C	1	MAADGYLPDWLEDTLSEGIRQWWKLPKPGPPPPKPAERHKDDSRGLVLPGYKYLGFNGLDKGEPVNEADA
hu. 53-C	1	MAADGYLPDWLEDTLSEGIRQWWKLPKPGPPPPKPAERHKDDSRGLVLPGYKYLGFNGLDKGEPVNEADA
hu. 60-C	1	MAADGYLPDWLEDTLSEGIRQWWKLPKPGPPPPKPAERHKDDSRGLVLPGYKYLGFNGLDKGEPVNEADA
hu. 55-C	1	MAADGYLPDWLEDTLSEGIRQWWKLPKPGPPPPKPAERHKDDSRGLVLPGYKYLGFNGLDKGEPVNEADA
hu. 2-C	1	MAADGYPPDWLEDTLSEGIRQWWKLPKPGPPPPKPAERHKDDSRGLVLPGYKYLGFNGLDKGEPVNEADA
hu. 1-C	1	MAADGYLPDWLEDTLSEGIRQWWKLPKPGPPPPKPAERHKDDSRGLVLPGYKYLGFNGLDKGEPVNEADA
hu. 18-C	1	MAADGYLPDWLEDTLSEGIRQWWKLPKPGPPPPKPAERHKDDSRGLVLPGYKYLGFNGLDKGEPVNEADA
hu. 3-C	1	MAADGYLPDWLEDTLSEGIRQWWKLPKPGPPPPKPAERHKDDSRGLVLPGYKYLGFNGLDKGEPVNEADA
hu. 25-C	1	MAADGYLPDWLEDTLSEGIRQWWKLPKPGPPPPKPAERHKDGSRLVLPGYKYLGFNGLDKGEPVNEADA
hu. 15-C	1	MAADGYLPDWLEDTLSEGIRQWWKLPKPGPPPPKPAERHKDDSRGLVLPGYKYLGFNGLYKGEPVDEADA
hu. 16-C	1	MAADGYLPDWLEDTLSEGIRQWWKLPKPGPPPPKPAERHKDDSRGLVLPGYKYLGFNGLYKGEPVNEADA
hu. 11-C	1	MAADGYLPDWLEDTLSEGIRQWWKLPKPGPPPPKPAERHQDNRGLVLPGYKYLGFNGLDKGEPVNEADA
hu. 10-C	1	MAADGYLPDWLEDTLSEGIRQWWKLPKPGPPPPKLAERHQDNRGLVLPGYKYLGFNGLDKGEPVNEADA
hu. 4-C	1	MAADGYLPDWLEDTLSEGIRQWWKLPKPGPPPPKPAERHKDDSRGLVLPGYKYLGFNGLDKGEPVNEADA
rh. 54-D	1	MAADGYLPDWLEDTLSEGIREWWDLPKPGAPKPKANQQKDDGRLVLPGYKYLGFNGLDKGEPVNAADA
rh. 48-D	1	MAADGYLPDWLEDTLSEGIREWWDLPKPGAPKPKANQQKDDGRLVLPGYKYLGFNGLDKGEPVNAADA
rh. 55-D	1	MAADGYLPDWLEDTLSEGIREWWDLPKPGAPKPKANQQKDDGRLVLPGYKYLGFNGLDKGEPVNAADA
rh. 62-D	1	MAADGYLPDWLEDTLSEGIREWWDLPKPGAPKPKANQQKDDGRLVLPGYKYLGFNGLDKGEPVNAADA
AAV7-D	1	MAADGYLPDWLEDTLSEGIREWWDLPKPGAPKPKANQQKDDGRLVLPGYKYLGFNGLDKGEPVNAADA
rh. 52-E	1	MAADGYLPDWLEDTLSEGIREWWDLPKPGAPKPKANQQKDDGRLVLPGYKYLGFNGLDKGEPVNAADA
rh. 51-E	1	MVADGYLPDWLEDTLSEGIREWWDLPKPGAPKPKANQQKDDGRLVLPGYKYLGFNGLDKGEPVNAADA
hu. 39-E	1	MAADGYLPDWLEDTLSEGIREWWDLPKPGAPKPKANQQKDDGRLVLPGYKYLGFNGLDKGEPVNAADA

FIG. 2B

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hu. 48-A 71 AALEHDKAYDQQLKAGDNPYLRYNHADAEEFQERLQEDTSFGGNLGRAVFAQAKKRVLEPLG-LVEEGA KTA
hu. 44-A 71 AALEHDKAYDRQLDSDGNPYLYKYNHADAEEFQERLKEDTSFGGNLGRAVFAQAKKRVLEPLG-LVEEGA EATA
hu. 43-A 71 AALEHDKAYDQQLKAGDNPYPRYNHADAEEFQERLQEDTPFGGNLGRAVFAQAKKRVLEPLG-LVEEAA KTA
AAV6-A 71 AALEHDKAYDQQLKAGDNPYLRYNHADAEEFQERLQEDTSFGGNLGRAVFAQAKKRVLEPFG-LVEEGA KTA
hu. 34-B 71 AALEHDKAYDRQLDSDGNPYLYKYNHADAEEFQERLKEDTSFGGNLGRAVFAQAKKRVLEPLG-LVEEPV KTA
hu. 47-B 71 AALEHDKAYDRQLDSDGNPYLYKYNHADAEEFQERLKEDTSFGGNLGRAVFAQAKKRVLEPLG-LVGE PVKTA
hu. 29-B 71 AALEHDKAYDRQLDSDGNPYLYKYNHADAEEFQERLKEDTSFGGNLGRAVFAQAKKRVLEPLG-LVEEPV KTA
hu. 63-B 71 AALEHDKAYDRQLDSDGNPYLYKYNHADAEEFQERLKEDTSFGGNLGRAVFAQAKKRVLEPLG-LVEEPV KTA
hu. 56-B 71 AALEHDKAYDRQLDSDGNPYLYKYNHADAEEFQERLKEDTSFGGNLGRAVFAQAKKRVLEPLG-LVEEPV KTA
hu. 45-B 71 AALEHDKAYDRQLDSDGNPYLYKYNHADAEEFQERLKEDTSFGGNLGRAVFAQAKKRVLEPLG-LVEEPV KTA
hu. 57-B 70 AALEHDKAYDRQLDSDGNPYLYKYNHADAEEFQERLKEDTSFGGNLGRAVFAQAKKRVLEPLG-LVEEPV KTA
hu. 35-B 71 AALEHDKAYDRQLDSDGNPYLYKYNHADAEEFQERLKEDTSFGGNLGRAVFAQAKKRVLEPLG-LVEEPV KTA
hu. 58-B 71 AALEHDKAYDRQLDSDGNPYLYKYNHADAEEFQERLKEDTSFGGNLGRAVFAQAKKRVLEPLG-LVEEPV KTA
hu. 28-B 71 AALEHDKAYDRQLDSDGNPYLYKYNHADAEEFQERLKEDTSFGGNLGRAVFAQAKKRVLEPLS-LVEEPV KTA
hu. 51-B 71 AALEHDKAYDRQLDSDGNPYLYKYNHADAEEFQERLKEDTSFGGNLGRAVFAQAKKRVLEPLG-LVGE PVKTA
hu. 19-B 71 AALEHDKAYDRQLDSDGNPYLYKYNHADAEEFQERLKEDTSFGGNLGRAVFAQAKKRVLEPLG-LVEEPV KTA
hu. 49-B 71 AALEYDKAYDRQLDSDGNPYLYKYNHADAEEFQERLKEDTSFGGNLGRAVFAQAKKRVLEPLG-LVEEPV KTA
hu. 52-B 71 AALEHDKAYDRQLDSDGNPYLYKYNHADAEEFQERLKEDTSFGGNLGRAVFAQAKKRVLEPLG-LVGE PVKTA
hu. 13-B 71 AALEHDKAYDRQLDSDGNPYLYKYNHADAEEFQERLKEDTSFGGNLGRAVFAQAKKRVLEPLG-LVEEPV KTA
AAV2-B 71 AALEHDKAYDRQLDSDGNPYLYKYNHADAEEFQERLKEDTSFGGNLGRAVFAQAKKRVLEPLG-LVEEPV KTA
hu. 20-B 71 AALEHDKAYDRQLDSDGNPYLYKYNHADAEEFQERLKEDTSFGGNLGRAVFAQAKKRVLEPLG-LVEEPV KAA
hu. 24-B 71 AALEHDKAYDRQLDSDGNPYLYKYNHADAEEFQERLKEDTSFGGNLGRAVFAQAKKRVLEPLG-LVEEPV KTA
hu. 64-B 71 AALEHDKAYDRQLDSDGNPYLYKYNHADAEEFQERLKEDTSFGGNLGRAVFAQAKKRVLEPLG-LVEEPV KTA
hu. 27-B 71 AALEHDKAYDRQLDSDGNPYLYKYNHADAEEFQERLKEDTSFGGNLGRAVFAQAKKRVLEPLG-LVEEPV KTA
hu. 21-B 71 AALEHDKAYDRQLDSDGNPYLYKYNHADAEEFQERLKEDTSFGGNLGRAVFAQAKKRVLEPLG-LVEEPV KTA
hu. 22-B 71 AALEHDKAYDRQLDSDGNPYLYKYNHADAEEFQERLKEDTSFGGNLGRAVFAQAKKRVLEPLG-LVEEPV KTA
hu. 23-B 71 AALEHDKAYDRQLDSDGNPYLYKYNHADAEEFQERLKEDTSFGGNLGRAVFAQAKKRVLEPLG-LVEEPV KTA
hu. 7-C 71 AALEHDKAYDRQLDSDGNPYLYKYNHADAEEFQERLKEDTSFGGNLGRAVFAQAKKRVLEPLG-LVEGPV KTA
hu. 61-C 71 AALEHDKAYDRQLDSDGNPYLYKYNHADAEEFQERLKEDTSFGGNLGRAVFAQAKKRVLEPLG-LVEEPV KTA
rh. 56-C 71 AALEHDKAYDRQLDSDGNPYLYKYNHADAEEFQERLKEDTSFGGNLGRAVFAQAKKRVLEPLG-LVEEPV KTA

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hu. 9-C 71 AALEHDKAYDRQLDSDGNPYPYLKYNHADAEEFQERLKEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEPPVKTA
hu. 54-C 71 AALEHDKAYDRQLDSDGNPYPYLKYNHADAEEFQERLKEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEPPVKTA
hu. 53-C 71 AALEHDKAYDRQLDSDGNPYPYLKYNHADAEEFQERLKEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEPPVKTA
hu. 60-C 71 AALEHDKAYDRQLDSDGNPYPYLKYNHADAEEFQERLKEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEPPVKTA
hu. 55-C 71 AALEHDKAYDRQLDSDGNPYPYLKYNHADAEEFQERLKEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEPPVKTA
hu. 2-C 71 AALEHDKAYDRQLDSDGNPYPYLKYNHADAEEFQERLKEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEPPVKTA
hu. 1-C 71 AALEHDKAYDRQLDSDGNPYPYLKYNHADAEEFQERLKEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEPPVKTA
hu. 18-C 71 AALEHDKAYDRQLDSDGNPYPYLKYNHADAEEFQERLKEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEPPVKTA
hu. 3-C 71 AALEHDKAYDRQLDSDGNPYPYLKYNHADAEEFQERLKEDTSFGGNLGRAVFQAKKRVLEPLRPLGLRKPVKTA
hu. 25-C 71 AALEHDKAYDRQLDSDGNPYPYLKYNHADAEEFQERLKEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEPPVKTA
hu. 15-C 71 AALEHDKAYDRQLDSDGNPYPYLKYNHADAEEFQERLKEDTSFGGNLGRAVFQAKKRVLEPLG-LVGEPPVKTA
hu. 16-C 71 AALEHDKAYDRQLDSDGNPYPYLKYNHAGAEFQERLKEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEPPVKTA
hu. 11-C 71 AALEHDKAYDRQLDSDGNPYPYLKYNHADAEEFQERLKEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEPPVKTA
hu. 10-C 71 AALEHDKAYDRQLDSDGNPYPYLKYNHADAEEFQERLKEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEPPVKTA
hu. 4-C 71 AALEHDKAYDRQLDSDGNPYPYLKYNHADAEEFQERLKEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEPPVKTA
rh. 54-D 71 AALEHDKAYDQQLKAGDNPYPYLRYNHADAEEFQERLQEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEAAKTA
rh. 48-D 71 AALEHDKAYDQQLKAGDNPYPYLRYNHADAEEFQERLQEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEAAKTA
rh. 55-D 71 AALEHDKAYDQQLKAGDNPYPYLRYNHADAEEFQERLQEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEGAKTA
rh. 62-D 71 AALEHDKAYDQQLKAGDNPYPYLRYNHADAEEFQERLQEDTSFGGNLGRAVFQAKKRVLEPLG-LAEAAKTA
AAV7-D 71 AALEHDKAYDQQLKAGDNPYPYLRYNHADAEEFQERLQEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEGAKTA
rh. 52-E 71 AALEHDKAYDQQLKAGDNPYPYLRYNHADAEEFQERLQEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEGAKTA
rh. 51-E 71 AALEHDKAYDQQLKAGDNPYPYLRYNHADAEEFQERLQEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEGAKTA
hu. 39-E 71 AALEHDKAYDQQLKAGDNPYPYLRYNHADAEEFQERLQEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEGAKTA
rh. 53-E 71 AALEHDKAYDQQLKAGDNPYPYLRYNHADAEEFQERLQEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEGAKTA
hu. 37-E 71 AALEHDKAYDQQLKAGDNPYPYLRYNHADAEEFQERLQEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEAAKTA
rh. 43-E 71 AALEHDKAYDQQLKAGDNPYPYLRYNHADAEEFQERLQEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEGAKTA
rh. 50-E 71 AALEHDKAYDQQLKAGDNPYPYLRYNHADAEEFQERLQEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEGAKTA
rh. 49-E 71 AALEHDKAYDQQLKAGDNPYPYLRYNHADAEEFQERLQEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEGAKTA
rh. 61-E 71 AALEHDKAYDQQLKAGDNPYPYLRYNHADAEEFQERLQEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEGAKTA
hu. 41-E 71 AALEHDKAYDQQLKAGDNPYPYLRYNHADAEEFQERLQEDTSFGGNLGRAVFQAKKRVLEPLG-PVEEAAKTA

FIG. 2E

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rh. 64-E	71	AALEHDKAYDQQLKAGDNPYLRYNHADA	EFQERLQEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEGA	KTA
hu. 42-E	71	AALEHDKAYDQQLKAGDNPYLRYNHADA	EFQERLQEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEAA	AKTA
rh. 57-E	71	AALEHDKAYDQQLKAGDNPYLRYNHADA	EFQERLQEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEGA	AKTA
hu. 40-E	71	AALEHDKAYDQQLKAGDNPYLRYNHADA	EFQERLQEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEAA	AKTA
AAV8-E	71	AALEHDKAYDQQLKAGDNPYLRYNHADA	EFQERLQEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEGA	AKTA
rh. 58-E	71	AALEHDKAYDQQLKAGDNPYLRYNHADA	EFQERLQEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEAA	AKTA
rh. 40-E	71	AALEHDKAYDQQLKAGDNPYLRYNHADA	EFQERLQEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEAA	AKTA
hu. 67-E	71	AALEHDKAYDQQLKAGDNPYLRYNHADA	EFQERLQEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEAA	AKTA
hu. 17-E	71	AALEHDKAYDQQLKAGDNPYLRYNHADA	EFQERLQEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEGA	AKTA
hu. 6-E	71	AALEHDKAYDQQLKAGDNPYLRYNHADA	EFQERLQEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEGA	AKTA
hu. 66-E	71	AALEHDKAYDQQLKAGDNPYLRYNHADA	EFQERLQEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEAA	AKTA
rh. 38-E	71	AALEHDKAYDQQLKAGDNPYLRYNHADA	EFQERLQEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEAA	AKTA
hu. 32-F	71	AALEHDKAYDQQLKAGDNPYLRYNHADA	EFQERLQEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEAA	AKTA
AAV9/hu	71	AALEHDKAYDQQLKAGDNPYLRYNHADA	EFQERLQEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEAA	AKTA
hu. 31-F	71	AALEHDKAYDQQLKAGDNPYLRYNHADA	EFQERLQEDTSFGGNLGRAVFQAKKRVLEPLG-LVEEAA	AKTA

		150	160	170	180	190	200	210
AAV5	139	PTGKRIDDHFP-----	-----	-----	-----	-----	-----	-----
AAV3-3	140	PGKKGAVDQSPQ-EPDSSSGVGKSGKQ	PARKRLNFGQTDSESVDP-PQPLGEPPAAPTSLGSNTMASGG					
AAV4-4	139	PGKKRPLIESPQ-QPDSSSTGIGKKGKQ	PAKKKLVFEDETGA	GP---	PEGSTSGAMS--	DDSEMRAAA		
AAV1-A	140	PGKKRPVEQSPQ-EPDSSSGIGKTGQQ	PAKKRLNFGQTDSESVDP-PQPLGEPPATPAAVGP	TTMASGG				
hu. 46-A	140	PGKKRPVEQSPQ-EPDSSSGIGKTGQQ	PAKKRLNFGQTDSESVDP-PQPLGEPPATPAAVGP	TTMASGG				
hu. 48-A	140	PGKKRPVEQSPQ-EPDSSSGIGKTGQQ	PAKKRLNFGQTDSESVDP-PQPLGEPPATPAAVGP	TTMASGG				
hu. 44-A	140	PGKKRPVEQSPQ-GPDSSSGIGKTGQQ	PAKKRLNFGQTDSESVDP-PQPLGEPPATPAAVGP	TTMASGG				
hu. 43-A	140	PGKKRPVEPSPQSPDSSSTGIGKKGQ	PAKKRLNFGQTDSESVDP-PQPLGEPPATPAAVGP	TTMASGG				
AAV6-A	140	PGKKRPVEQSPQ-EPDSSSGIGKTGQQ	PAKKRLNFGQTDSESVDP-PQPLGEPPATPAAVGP	TTMASGG				
hu. 34-B	140	PGKKRPVEHSPV-EPDSSSGTGKAGQ	QPAKKRLNFGQTDSDSVDP-PQPLGQPPAAPSGLGTNTMATGS					
hu. 47-B	140	PGKKRPVEHSPV-EPDSSSGTGKAGQ	QPAKKRLNFGQTDSDSVDP-PQPLGQPPAAPSGLGTNTMATGS					
hu. 29-B	140	PGKKRPVEHSPA-EPDSSSGTGKSGNQ	PAKKRLNFGQTDSDSVDP-PQPLGQPPAAPSGLGTNTMATGS					

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hu. 63-B 140 PGKKRPVEHSPA-EPDSSSGTGKAGQQPARKRLNFGQTGDADSVDP-PQPLGQPPAAPSGLGTTNTMATGS
hu. 56-B 140 PGKKRPVEHSPV-EPDSSSGTGKAGNQPARKRLNFGQTGDADSVDP-PQPLGQPPASPGLGTTNTMATGS
hu. 45-B 140 PGKKRPVEHSPV-EPDSSSGTGKAGQQPARKRLNFGQTGDADSVDP-PQPLGQPPAAPSGLGTTNTMATGS
hu. 57-B 139 PGKKRPVEHSPV-EPDSSSGTGKAGNQPARKRLNFGQTGDADSVDP-PQPLGQPPAAPSGLGTTNTMATGS
hu. 35-B 140 PGKKRPVEHSPV-EPDSSSGTGKAGQQPARKRLNFGQTGDADSVDP-PQPLGQPPAAPSGLGTTNTMATGS
hu. 58-B 140 PGKKRPVEHSPV-EPDSSSGTGKAGNQPARKRLNFGQTGDADSVDP-PQPLGQPPAAPSGLGTTNTMATGS
hu. 28-B 140 PGKKRPVEHSPA-EPDSSSGTGKSGNQPARKRLNFGQTGDSDSVDP-PQPLGQPPAAPSGLGTTNTMATGS
hu. 51-B 140 PGKKRPVEHSPV-EPDSSSGTGKAGQQPARKRLNFGQTGDADSVDP-PQPLGQPPAAPSGLGTTNTMATGS
hu. 19-B 140 PGEKRPVEHSPA-EPDSSSGTGKAGQQPARKRLNFGQTGDADSVDP-PQPLGQPPAAPSGLGTTNTMASGS
hu. 49-B 140 PGKKRPVEHSPV-EPDSSSGTGKAGQQPARKRLNFGQTGDADSVDP-PQPLGQPPAAPSGLGTTNTMATGS
hu. 52-B 140 PGKKRPVEHSPV-EPDSSSGTGKAGQQPARKRLNFGQTGDADSVDP-PQPLGQPPAAPSGLGTTNTMATGS
hu. 13-B 140 PGKKRPVEHSPA-EPDSSSGTGKAGQQPARKRLNFGQTGDADSVDP-PQPLGQPPAAPSGLGTTNTMATGS
AAV2-B 140 PGKKRPVEHSPV-EPDSSSGTGKAGQQPARKRLNFGQTGDADSVDP-PQPLGQPPAAPSGLGTTNTMATGS
hu. 20-B 140 PGEKRPVEHSPA-EPDSSSGTGKAGQQPARKRLNFGQTGDADSVDP-PQPLGQPPAAPSGLGTTNTMASGS
hu. 24-B 140 PGKKRPVEHSPA-EPDSSSGTGKAGQQPARKRLNFGQTGDADSVDP-PRPLGQPPAAPSGLGTTNTMASGS
hu. 64-B 140 PGKKRPVEHSLA-EPDSSSGTGKAGQQPARRRLNFGQTGDADSVDP-PQPLGQPPAAPSGLGTTNTMATGS
hu. 27-B 140 PGKKRPVEHSPA-EPDSSSGTGKAGQQPARKRLNFGQTGDADSVDP-PQPLGQPPAAPSGLGTTNTMASGS
hu. 21-B 140 PGKKRPVEHSPA-EPDSSSGTGKAGQQPARKRLNFGQTGDADSVDP-PRPLGQPPAAPSGLGTTNTMASGS
hu. 22-B 140 PGKKRPVEHSPA-EPDSSSGTGKAGQQPARKRLNFGQTGDADSVDP-PQPLGQPPAAPSGLGTTNTMASGS
hu. 23-B 140 PGKKRPVEHSPA-EPDSSSGTGKAGQQPARKRLNFGQTGDADSVDP-PQPLGQPPAAPSGLGTTNTMASGS
hu. 7-C 140 PGKKRPVEHSPA-EPDSSSGTGKAGQQPARKRLNFGQTGDADSVDP-PQPLGQPPAAPSGLGSTTMATGS
hu. 61-C 140 PGKKRPVEHPPV-EPDSSSGTGKAGQQPARKRLNFGQTGDADSVDP-PQPLGQPPAAPSGLGSTTMATGS
rh. 56-C 140 PGKKRPVEHSPA-EPDSSSGTGKAGQQPARKRLNFGQTGDADSVDP-PQPLGQPPAAPSGLGSTTMATGS
hu. 9-C 140 PGKKRPVEHSPV-EPDSSSGTGKAGHQPARKRLNFGQTGDADSVDP-PQPLGQPPAAPTSLGSTTMATGS
hu. 54-C 140 PGKKRPVEHSPA-EPDSSSGTGKAGQQPARKRLNFGQTGDADSVDP-PQPLGQPPAAPTSLGSTTMATGS
hu. 53-C 140 PGKKRPVEHSPA-EPDSSSGTGKAGQQPARKRLNFGQTGDADSVDP-PQPLRQPPAAPTSLGSTTMATGS
hu. 60-C 140 PGKKRPVEHSPV-EPDSSSGTGKAGQQPARKRLNFGQTGDADSVDP-PQPLGQPPAAPSGLGSTTMATGS
hu. 55-C 140 PGKKRPVEHSPA-EPDSSSGTGKAGQQPARKRLNFGQTGDADSVDP-PQPLGQPPAAPTSLGSTTMATGS
hu. 2-C 140 PGKKRPVEHSPV-EPDSSSGTGKAGQRPARKRLNFGQTGDADSVDP-PQPLGQPPAAPSGLGSTTMATGS
hu. 1-C 140 PGKKRPVEHSPV-EPDSSSGTGKAGQQPARKRLNFGQTGDADSVDP-PQPLGQPPAAPSGLGSTTMATGS

FIG. 2G

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hu.18-C 140 PGKKRPVEHSPV-EPDSSSGTGKAGQQPARKRLNFGQTGDADSVDP-PQPLGQPPAAPSGLGSTTMAAGS
 hu.3-C 141 PGKKRPVEHSPV-EPDSSSGTGKAGQQPARKRLNFGQTGDADSVDP-PQPLGQPPAAPSGLGSTTMAAGS
 hu.25-C 140 PGKKRPVEHSPA-EPDSSSGTGKAGQQPARKRLNFGQTGDADSVDP-PQPLGQPPAAPSGLGSTTMAAGS
 hu.15-C 140 PGKKRPVEHSPV-EPDSSSGTGKAGNQPARKRLNFGQTGDADSVDP-PQPLGQPPAAPSGLGSTTMAAGS
 hu.16-C 140 PGKKRPVEHSPV-EPDSSSGTGKAGNQPARKRLNFGQTGDADSVDP-PQPLGQPPAAPSGLGSTTMAAGS
 hu.11-C 140 PGKKRPVEHSPV-EPDSSSGTGKAGHQPARKRLNFGQTGDADSVDP-PQPLGQPPAAPSTSLGSTTMAAGS
 hu.10-C 140 PGKKRPVEHSPV-EPDSSSGTGKAGHQPARKRLNFGQTGDADSVDP-PQPLGQPPAAPSTSLGSTTMAAGS
 hu.4-C 140 PGKKRPVEHSPV-EPDSSSGTGKAGQQPARKRLNFGQTGDADSVDP-PQPLGQPPAAPSGLGSTTMAAGS
 rh.54-D 140 PGKKRPVEPSQSPDSSSTGIGKKGQQPARKRLNFGQTGDSESVDP-PQPLGEPPAGPSGLSGSTMAAGG
 rh.48-D 140 PGKKRPVEPSQSPDSSSTGIGKKGQQPARKRLNFGQTGDSESVDP-PQPIGEPPAGPSGLSGSTMAAGG
 rh.55-D 140 PGKKRPVEPSQSPDSSSTGIGKKGQQPARKRLNFGQTGDSESVDP-PQPIGEPPAAPSSVSGSTMAAGG
 rh.62-D 140 PGKKRPVEPSQSPDSSSTGIGKKGQQPARKRLNFGQTGDSESVDP-PQPIGEPPAGPSGLSGSTMAAGG
 AAV7-D 140 PAKKRPVEPSQSPDSSSTGIGKKGQQPARKRLNFGQTGDSESVDP-PQPLGEPPAAPSSVSGSTVAAGG
 rh.52-E 140 PGKKRPVEPSQSPDSSSTGIGKKGQQPARKRLNFGQTGDSESVDP-PQPIGEPPAAPSSVSGSTMAAGG
 rh.51-E 140 PGKKRPVEPSQSPDSSSTGIGKKGQQPARKRLNFGQTGDSESVDP-PQPIGEPPAAPSSVSGSTMAAGG
 hu.39-E 140 PGKKRPVEPSQSPDSSSTGIGKKGQQPARKRLNFGRTGDSESVDP-PQPIGEPPAAPSSVSGSTMAAGG
 rh.53-E 140 PGKKRPVEPSQSPDSSSTGIGKKGQQPARKRLNFGQTGDSESVDP-PQPIGEPPAAPSSVSGSTMAAGG
 hu.37-E 140 PGKKRPVEPSQSPDSSSTGIGKKGQQPARKRLNFGQTGDSESVDP-PQPIGEPPAGPSGLSGSTMAAGG
 rh.43-E 140 PGKKRPVEQSPQ-EPDSSSGTGKAGQQPARKRLNFGQTGDSESVDP-PQPLGEPPAAPSGVGPNTMAAGG
 rh.50-E 140 PGKKRPVEPSQSPDSSSTGIGKKGQQPARKRLNFGQTGDSESVDP-PQPIGEPPAAPSSVSGSTMAAGG
 rh.49-E 140 PGKKRPVEPSQSPDSSSTGIGKKGQQPARKRLNFGQTGDSESVDP-PQPLGEPPAAPSSVSGSTMAAGG
 rh.61-E 140 PGKKRPVEPSQSPDSSSTGIGKKGQQPARKRLNFGQTGDSESVDP-PQPIGEPPAAPSSVSGSTMAAGG
 hu.41-E 140 PGKKRPVEPPQSPDSSSTGIGKKGQQPARKRLNFGQTGDSESVDP-PQPIGEPPAGPSGLSGSTMAAGG
 rh.64-E 140 PGKKRPVEPSQSPDSSSTGIGKKGQQPARKRLNFGQTGDSESVDP-PQPIGEPPAAPSSVSGSTMAAGG
 hu.42-E 140 PGKKRPVEPSQSPDSSSTGIGKKGQQPARKRLNFGQTGDSESVDP-PQPIGEPPAGPSGLSGSTMAAGG
 rh.57-E 140 PGKKRPVEPSQSPDSSSTGIGKKGQQPARKRLNFGQTGDSESVDP-PQPIGEPPAAPSSVSGSTMAAGG
 hu.40-E 140 PGKKRPVEPSQSPDSSSTGIGKKGQQPARKRLNFGQTGDSESVDP-PQPIGEPPAGPSGLSGSTMAAGG
 AAV8-E 140 PGKKRPVEPSQSPDSSSTGIGKKGQQPARKRLNFGQTGDSESVDP-PQPLGEPPAAPSGVGPNTMAAGG
 rh.58-E 140 PGKKRPVEPSQSPDSSSTGIGKKGQQPARKRLNFGQTGDSESVDP-PQPIGEPPAAPSSVSGSTMAAGG
 rh.40-E 140 PGKKRPVEPSQSPDSSSTGIGKKGQQPARKRLNFGQTGDSESVDP-PQPIGEPPAGPSGLSGSTMAAGG

FIG. 2H

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hu. 51-B 208 GAPMADNNEGADGVGNSSGNWHCDSTWMDRVIITSTRTWALPTYNNHLYKQIS--SQSGASNDNHYFGY
hu. 19-B 208 GAPMADNNEGADGVGNSSGNWYCDSTWMDRVIITSTRTWALPTYNNHLYKQIS--SQSGASNDNHYFGY
hu. 49-B 208 GAPMADNNEGADGVGNSSGNWHCDSTWMDRVIITSTRTWALPTYNNHLYKQIS--SQSGASNDNHYFGY
hu. 52-B 208 GAPMADNNEGADGVGNSSGNRHCSTWMDRVIITSTRTWALPTYNNHLYRQIS--SQSGASNDNHYFGY
hu. 13-B 208 GAPMADNNEGADGVGNSSGNWHCDSTWMDRVIITSTRTWALPTYNNHLYKQIS--SQSGASNDNHYFGY
AAV2-B 208 GAPMADNNEGADGVGNSSGNWHCDSTWMDRVIITSTRTWALPTYNNHLYKQIS--SQSGASNDNHYFGY
hu. 20-B 208 GAPMADNNEGADGVGNSSGNWHCDSTWMDRVIITSTRTWALPTYNNHLYKQIS--SQSGASNDNHYFGY
hu. 24-B 208 GAPMADNNEGADGVGNSSGNWHCDSTWMDRVIITSTRTWALPTYNNHLYKQIS--SQSGASNDNHYFGY
hu. 64-B 208 GAPMADNNEGADGVGNSSGNWHCDSTWMDRVIITSTRTWALPTYNNHLYRQIS--SQSGASNDNHYFGY
hu. 27-B 208 GAPMADNNEGADGVGNSSGNWHCDSTWMDRVIITSTRTWALPTYNNHLYKQIS--SQSGASNDNHYFGY
hu. 21-B 208 GAPMADNNEGADGVGNSSGNWHCDSTWMDRVIITSTRTWALPTYNNHLYKQIS--SQSGASNDNHYFGY
hu. 22-B 208 GAPMADNNEGADGVGNSSGNWHCDSTWMDRVIITSTRTWALPTYNNHLYKQIS--SQSGASNDNHYFGY
hu. 23-B 208 GAPMADNNEGADGVGNSSGNWHCDSTWMDRVIITSTRTWALPTYNNHLYKQIS--SQSGASNDNHYFGY
hu. 7-C 208 GAPMADNNEGADGVGNSSGNWHCDSTWMDRVIITSTRTWALPTYNNHLYKQIS--SQSGASNDNHYFGY
hu. 61-C 208 GAPMADNNEGADGVGNSSGNWHCDSTWMDRVIITSTRTWALPTYNNHLYKQIS--SQSGASNDNHYFGY
rh. 56-C 208 GAPMADNNEGADGVGNSSGNWHCDSTWMDRVIITSTRTWALPTYNNHLYKQIS--SQSGASNDNHYFGY
hu. 9-C 208 GAPMADNNEGADGVGNSSGNWHCDSTWMDRVIITSTRTWALPTYNNHLYKQIS--SQSGASNDNHYFGY
hu. 54-C 208 GAPMADNNEGADGVGNSSGNWHCDSTWMDRVIITSTRTWALPTYNNHLYKQIS--SQSGASNDNHYFGY
hu. 53-C 208 GAPMADNNEGADGVGNSSGNWHCDSTWMDRVIITSTRTWALPTYNNHLYKQIS--SQSGASNDNHYFGY
hu. 60-C 208 GAPMADNNEGADGVGNSSGNWHCDSTWMDRVIITSTRTWALPTYNNHLYKQIS--SQSGASNDNHYFGY
hu. 55-C 208 GAPMADNNEGADGVGNSSGNWHCDSTWMDRVIITSTRTWALPTYNNHLYKQIS--SQSGASNDNHYFGY
hu. 2-C 208 GAPMADNNEGADGVGNSSGNWHCDSTWMDRVIITSTRTWALPTYNNHLYKQIS--SQSGASNDNHYFGY
hu. 1-C 208 GAPMADNNEGADGVGNSSGNWHCDSTWMDRVIITSTRTWALPTYNNHLYKQIS--SQSGASNDNHYFGY
hu. 18-C 208 GAPVADNNEGADGVGNSSGNWHCDSTWMDRVIITSTRTWALPTYNNHLYKQIS--SQSGASNDNHYFGY
hu. 3-C 209 GAPMADNNEGADGVGNSSGNWHCDSTWMDRVIATSTRTWALPTYNNHLYKQIS--SQSGACNDNHYFGY
hu. 25-C 208 GAPMADNNEGADGVGNSSGNWHCDSTWMDRVIITSTRTWALPTYNNHLYKQIS--SQSGASNDNHYFGY
hu. 15-C 208 GAPVADNNEGADGVGNSSGNWHCDSTWMDRVIITSTRTWALPTYNNHLYKQIS--SQSGASNDNHYFGY
hu. 16-C 208 GAPVADNNEGADGVGNSSGNWHCDSTWMDRVIITSTRTWALPTYNNHLYKQIS--SQSGASNDNHYFGY
hu. 11-C 208 GAPMADNNEGADGVGNSSGNWHCDSTWMDRVIITSTRTWALPTYNNHLYKQIS--SQSGASNDNHYFGY
hu. 10-C 208 GAPMADNNEGADGVGNSSGNWHCDSTWMDRVIITSTRTWALPTYNNHLYKQIS--SQSGASNDNHYFGY

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hu.4-C 208 GAPMADNNEGADGVGNSSGNWHCDSQWLGLDRVITTTSTRTWALPTYNNHLYKQISS--SQSGASNDNHYFGY
 rh.54-D 209 GAPMADNNEGADGVGNASGNWHCDSTWLGLDRVITTTSTRTWALPTYNNHLYKQISS-QSAGSTNDNVYFGY
 rh.48-D 209 GAPMADNNEGADGVGNASGNWHCDSTWLGLDRVITTTSTRTWALPTYNNHLYKQISS-QSAGSTNDNVYFGY
 rh.55-D 209 GAPMADNNEGADGVGNSSGNWHCDSTWLGLDRVITTTSTRTWALPTYNNHLYKQISS-QSAGSTNDNVYFGY
 rh.62-D 209 GAPMADNNEGADGVGNASGNWHCDSTWLGLDRVITTTSTRTWALPTYNNHLYKQISS-QSAGSTNDNVYFGY
 AAV7-D 209 GAPMADNNEGADGVGNASGNWHCDSTWLGLDRVITTTSTRTWALPTYNNHLYKQISS-ETAGSTNDNTYFGY
 rh.52-E 209 GAPMADNNEGADGVGNSSGNWHCDSTWLGLDRVITTTSTRTWALPTYNNHLYKQISSNGTSGGSTNDNTYFGY
 rh.51-E 209 GAPMADNNEGADGVGNSSGNWHCDSTWLGLDRVITTTSTRTWALPTYNNHLYKQISSNGTSGGSTNDNTYFGY
 hu.39-E 209 GAPMADNNEGADGVGNSSGNWHCDSTWLGLDRVITTTSTRTWALPTYNNHLYKQISSNGTSGGSTNDNTYFGY
 rh.53-E 209 GAPMADNNEGADGVGNSSGNWHCDSTWLGLDRVITTTSTRTWALPTYNNHLYKQISSNGTSGGSTNDNTYFGY
 hu.37-E 209 GAPMADNNEGADGVGNSSGNWHCDSTWLGLDRVITTTSTRTWALPTYNNHLYKQISSNGTSGGSTNDNTYFGY
 rh.43-E 208 GAPMADNNEGADGVGNSSGNWHCDSTWLGLDRVITTTSTRTWALPTYNNHLYKQISSNGTSGCATNDNTYFGY
 rh.50-E 209 GAPMADNNEGADGVGNSSGNWHCDSTWLGLDRVITTTSTRTWALPTYNNHLYKQISSNGTSGGSTNDNTYFGY
 rh.49-E 209 GAPMADNNEGADGVGNSSGNWHCDSTWLGLDRVITTTSTRTWALPTYNNHLYKQISSNGTSGGSTNDNTYFGY
 rh.61-E 209 GAPMADNNEGADGVGNSSGNWHCDSTWLGLDRVITTTSTRTWALPTYNNHLYKQISSNGTSGGSTNDNTYFGY
 hu.41-E 209 GAPMADNNEGADGVGNSSGNWHCDSTWLGLDRVITTTSTRTWALPTYNNHLYKQISSNGTSGGSTNDNTYFGY
 rh.64-E 209 GAPMADNNEGADGVGNSSGNWHCDSTWLGLDRVITTTSTRTWALPTYNNHLYKQISSNGTSGGSTNDNTYFGY
 hu.42-E 209 GAPMADNNEGADGVGNSSGNWHCDSTWLGLDRVITTTSTRTWALPTYNNHLYKQISSNGTSGGSTNDNTYFGY
 rh.57-E 209 GAPMADNNEGADGVGNSSGNWHCDSTWLGLDRVITTTSTRTWALPTYNNHLYKQISSNGTSGGSTNDNTYFGY
 hu.40-E 209 GAPMADNNEGADGVGNSSGNWHCDSTWLGLDRVITTTSTRTWALPTYNNHLYKQISSNGTSGGSTNDNTYFGY
 AAV8-E 209 GAPMADNNEGADGVGNSSGNWHCDSTWLGLDRVITTTSTRTWALPTYNNHLYKQISSNGTSGCATNDNTYFGY
 rh.58-E 209 GAPMADNNEGADGVGNSSGNWHCDSTWLGLDRVITTTSTRTWALPTYNNHLYKQISSNGTSGGSTNDNTYFGY
 rh.40-E 209 GAPMADNNEGADGVGNSSGNWHCDSTWLGLDRVITTTSTRTWALPTYNNHLYKQISSNGTSGGSTNDNTYFGY
 hu.67-E 209 GAPMADNNEGADGVGNSSGNWHCDSTWLGLDRVITTTSTRTWALPTYNNHLYKQISSNGTSGGSTNDNTYFGY
 hu.17-E 209 GAPMADNNEGADGVGNSSGNWHCDSTWLGLDRVITTTSTRTWALPTYNNHLYKQISSNGTSGGSTNDNTYFGY
 hu.6-E 209 GAPMADNNEGADGVGNSSGNWHCDSTWLGLDRVITTTSTRTWALPTYNNHLYKQISSNGTSGGSTNDNTYFGY
 hu.66-E 209 GAPMADNNEGADGVGNSSGNWHCDSTWLGLDRVITTTSTRTWALPTYNNHLYKQISSNGTSGGSTNDNTYFGY
 rh.38-E 209 GAPMADNNEGADGVGNSSGNWHCDSTWLGLDRVITTTSTRTWALPTYNNHLYKQISSNGTSGGSTNDNTYFGY
 hu.32-F 208 GAPMADNNEGADGVGNSSGNWHCDSTWLGLDRVITTTSTRTWALPTYNNHLYKQISSNSTSGSSNDNAYFGY
 AAV9/hu 208 GAPMADNNEGADGVGNSSGNWHCDSTWLGLDRVITTTSTRTWALPTYNNHLYKQISSNSTSGSSNDNAYFGY

hu. 31-F	208	GAPVADNNEGADGVGSSGNWHCDSQLGLDRVITTTSTRTWALPTYNNHLYKQISNSTSGGSSNDNAYFGY	290	300	310	320	330	340	350
AAV5	267	STPWGYFDENRFSHSPRDWQRLINNYWGFRPRSLRVKIFNIQVKEVTQDSTTTIANNLSTVQVFTD						
AAV3-3	276	STPWGYFDENRFHCHFSRPDQRLINNNWGFRPKLSFKLFNIQVRGVTQNDGTTIANNLSTVQVFTD							
AAV4-4	267	STPWGYFDENRFHCHFSRPDQRLINNNWGMRPKAMRVKIFNIQVKEVTTSGETTANNLTSTVQIFAD							
AAV1-A	277	STPWGYFDENRFHCHFSRPDQRLINNNWGFRPKRNFKLFNIQVKEVTNDGVTIANNLSTVQVFS							
hu. 46-A	277	STPWGYFDENRFHCHFSRPDQRLINNNWGFRPKRNFKLFNIQVKEVTNDGVTIANNLSTVQVFS							
hu. 48-A	277	GTPWGYFDENRFHCHFSRPDQRLINNNWGFRPKRNFKLFNIQVEEVTNDGVTIANNLSTVQVFS							
hu. 44-A	277	STPWGYFDENRFHCHFSRPDQRLINNNWGFRPKRNFKLFNIQVKEVTNDGVTIANNLSTVQVFS							
hu. 43-A	278	STPWGYFDENRFHCHFSRPDQRLINNNWGFRPKRNFKLFNIQVKEVTNDGVTIANNLSTVQVFS							
AAV6-A	277	STPWGYFDENRFHCHFSRPDQRLINNNWGFRPKRNFKLFNIQVKEVTNDGVTIANNLSTVQVFS							
hu. 34-B	276	STPWGYFDENRFHCHFSRPDQRLINNNWGFRPKRNFKLFNIQVKEVTQNDGTTIANNLSTVQVFTD							
hu. 47-B	276	STPWGYFDENRFHCHFSRPDQRLINNNWGFRPKRNFKLFNIQVKEVTQNDGTTIANNLSTVQVFTD							
hu. 29-B	276	STPWGYFDENRFHCHFSRPDQRLINNNWGFRPKRNFKLFNIQVKEVTQNDGTTIANNLSTVQVFTD							
hu. 63-B	276	STPWGYFDENRFHCHFSRPDQRLINNNWGFRPKRNFKLFNIQVKEVTQNDGTTIANNLSTVQVFTD							
hu. 56-B	276	STPWGYFDENRFHCHFSRPDQRLINNNWGFRPKRNFKLFNIQVKEVTQNDGTTIANNLSTVQVFTD							
hu. 45-B	276	STPWGYFDENRFHCHFSRPDQRLINNNWGFRPKRNFKLFNIQVKEVTQNDGTTIANNLSTVQVFTD							
hu. 57-B	275	STPWGYFDENRFHCHFSRPDQRLINNNWGFRPKRNLKLFNIQVKEVTQNDGTTIANNLSTVQVFTD							
hu. 35-B	276	STPWGYFDENRFHCHFSRPDQRLINNNWGFRPKRNFKLFNIQVKEVTQNDGTTIANNLSTVQVFTD							
hu. 58-B	276	STPWGYFDENRFHCHFSRPDQRLINNNWGFRPKRNFKLFNIQVREVTQNDGTTIANNLSTVQVFTD							
hu. 28-B	276	STPWGYFDENRFHCHFSRPDQRLINNNWGFRPKRNFKLFNIQVKEVTQNDGTTIANNLSTVQVFTD							
hu. 51-B	276	STPWGYFDENRFHCHFSRPDQRLINNNWGFRPKRNFKLFNIQVKEVTQNDGTTIANNLSTVQVFTD							
hu. 19-B	276	STPWGYFDENRFHCHFSRPDQRLINNNWGFRPKRNFKLFNIQVKEVTQNDGTTIANNLSTVQVFTD							
hu. 49-B	276	STPWGYFDENRFHCHFSRPDQRLINNNWGFRPKRNFKLFNIQVKEVTQNDGTTIANNLSTVQVFTD							
hu. 52-B	276	STPWGYFDENRFHCHFSRPDQRLINNNWGFRPKRNFKLFNIQVKEVTQNDGTTIANNLSTVQVFTD							
hu. 13-B	276	STPWGYFDENRFHCHFSRPDQRLINNNWGFRPKRNFKLFNIQVKEVTQNDGTTIANNLSTVQVFTD							
AAV2-B	276	STPWGYFDENRFHCHFSRPDQRLINNNWGFRPKRNFKLFNIQVKEVTQNDGTTIANNLSTVQVFTD							
hu. 20-B	276	STPWGHFDENRFHCHFSRPDQRLINNNWGFRPKRLSFKLFNIQVKEVTQNDGTTIANNLSTVQVFTD							

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hu. 24-B 276 STPWGYFDFENRHFCHFSRDPWQRLINNNWGFPRKLSFKLFNIQVKEVTQNDGTTTIANNLSTVQVFTD
hu. 64-B 276 STPWGYFDFENRHFCHFSRDPWQRLINNNWGSRPKRLNFKLFNIQVKEVTQNDGTTTIANNLSTVQVFTD
hu. 27-B 276 STPWGYFDFENRHFCHFSRDPWQRLINNNWGFPRKLSFKLFNIQVKEVTQNDGTTTIANNLSTVQVFTD
hu. 21-B 276 STPWGYFDFENRHFCHFSRDPWQRLINNNWGFPRKLSFKLFNIQVKEVTQNDGTTTIANNLSTVQVFTD
hu. 22-B 276 STPWGYFDFENRHFCHFSRDPWQRLINNNWGFPRKLSFKLFNIQVKEVTQNDGTTTIANNLSTVQVFTD
hu. 23-B 276 STPWGYFDFENRHFCHFSRDPWQRLINNNWGFPRKLSFKLFNIQVKEVTQNDGTTTIANNLSTVQVFTD
hu. 7-C 276 STPWGYFDFENRHFCHFSRDPWQRLINNNWGFPRKLSFKLFNIQVKEVTQNDGTTTIANNLSTVQVFTD
hu. 61-C 276 STPWGYFDFENRHFCHFSRDPWQRLINNNWGFPRKLSFKLFNIQVKEVTQNDGTTTIANNLSTVQVFTD
rh. 56-C 276 STPWGYFDFENRHFCHFSRDPWQRLINNNWGFPRKLSFKLFNIQVKEVTQNDGTTTIANNLSTVQVFTD
hu. 9-C 276 STPWGYFDFENRHFCHFSRDPWQRLINNNWGFPRKLSFKLFNIQVKEVTQNDGTTTIANNLSTVQVFTD
hu. 54-C 276 STPWGYFDFENRHFCHFSRDPWQRLINNNWGFPRKLSFKLFNIQVKEVTQNDGTTTIANNLSTVQVFTD
hu. 53-C 276 STPWGYFDFENRHFCHFSRDPWQRLINNNWGFPRKLSFKLFNIQVKEVTQNDGTTTIANNLSTVQVFTD
hu. 60-C 276 STPWGYFDFENRHFCHFSRDPWQRLINNNWGFPRKLSFKLFNIQVKEVTQNDGTTTIANNLSTVQVFTD
hu. 55-C 276 STPWGYFDFENRHFCHFSRDPWQRLINNNWGFPRKLSFKLFNIQVKEVTQNDGTTTIANNLSTVQVFTD
hu. 2-C 276 STPWGYFDFENRHFCHFSRDPWQRLINNNWGFPRKLSFKLFNIQVKEVTQNDGTTTIANNLSTVQVFTD
hu. 1-C 276 STPWGYFDFENRHFCHFSRDPWQRLINNNWGFPRKLSFKLFNIQVKEVTQNDGTTTIANNLSTVQVFTD
hu. 18-C 276 STPWGYFDFENRHFCHFSRDPWQRLINNNWGFPRKLSFKLFNIQVKEVTQNDGTTTIANNLSTVQVFTD
hu. 3-C 277 STPWGYFDFENRHFCHFSRDPWQRLINNSNWGFPRKLSFKLFNIQVKEVTQNDGTTTIANNLSTVQVFTD
hu. 25-C 276 STPWGYFDFENRHFCHFSRDPWQRLINNNWGFPRKLSFKLFNIQVKEVTQNDGTTTIANNLSTVQVFTD
hu. 15-C 276 STPWGYFDFENRHFCHFSRDPWQRLINNNWGFPRKLSFKLFNIQVKEVTQNDGTTTIANNLSTVQVFTD
hu. 16-C 276 STPWGYFDFENRHFCHFSRDPWQRLINNNWGFPRKLSFKLFNIQVKEVTQNDGTTTIANNLSTVQVFTD
hu. 11-C 276 STPWGYFDFENRHFCHFSRDPWQRLINNNWGFPRKLSFKLFNIQVKEVTQNDGTTTIANNLSTVQVFTD
hu. 10-C 276 STPWGYFDFENRHFCHFSRDPWQRLINNNWGFPRKLSFKLFNIQVKEVTQNDGTTTIANNLSTVQVFTD
hu. 4-C 276 STPWGYFDFENRHFCHFSRDPWQRLVNNNRGFRPKRLNFKLFNIQVKEVTQNDGTTTIANNLSTVQVFTD
rh. 54-D 278 STPWGYFDFENRHFCHFSRDPWQRLINNNWGFPRKLSFKLFNIQVKEVTNDGTTTIANNLSTVQVFS
rh. 48-D 278 STPWGYFDFENRHFCHFSRDPWQRLINNSNWGFPRKLSFKLFNIQVKEVTNDGTTTIANNLSTVQVFS
rh. 55-D 278 STPWGYFDFENRHFCHFSRDPWQRLINNNWGFPRKLSFKLFNIQVKEVTNDGTTTIANNLSTVQVFS
rh. 62-D 278 STPWGYFDFENRHFCHFSRDPWQRLINNNWGFPRKLSFKLFNIQVKEVTNDGTTTIANNLSTVQVFS
AAV7-D 278 STPWGYFDFENRHFCHFSRDPWQRLINNNWGFPRKLSFKLFNIQVKEVTNDGTTTIANNLSTVQVFS
rh. 52-E 279 STPWGYFDFENRHFCHFSRDPWQRLINNNWGFPRKLSFKLFNIQVKEVTQNEGTTIANSLSTVQVFTD

FIG. 2M

rh. 51-E	279	STPWGYFDENRFHCHFS	PRDWQRLINNNWGFRPKRLSFKLFNIQVKEVTQNEG	TKTIANNLTSTIQVFTD
hu. 39-E	279	STPWGYLDENRFHCHFS	PRDWQRLINNNWGFRPKRLSFKLFNIQVKEVTQNEG	TKTIANNLTSTIQVFTD
rh. 53-E	279	STPWGYFDENRFHCHFS	PRDWQRLINNNWGFRPKRLSFKLFNIQVKEVTQNEG	TKTIANNLTSTIQVFTD
hu. 37-E	279	STPWGYFDENRFHCHFS	PRDWQRLINNNWGFRPKRLSFKLFNIQVKEVTQNEG	TKTIANNLTSTIQVFTD
rh. 43-E	278	STPWGYFDENRFHCHFS	PRDWQRLINNNWGFRPKRLSFKLFNIQVKEVTQNEG	TKTIANNLTSTIQVFTD
rh. 50-E	279	STPWGYFDENRFHCHFS	PRDWQRLINNNWGFRPKRLSFKLFNIQVKEVTQNEG	TKTIANNLTSTIQVFTD
rh. 49-E	279	STPWGYFDENRFHCHFS	PRDWQRLINNNWGFRPKRLSFKLFNIQVKEVTQNEG	TKTIANNLTSTIQVFTD
rh. 61-E	279	STPWGYFDENRFHCHFS	PRDWQRLINNNWGFRPKRLSFKLFNIQVKEVTQNEG	TKTIANNLTSTIQVFTD
hu. 41-E	279	STPWGYFDENRFHCHFS	PRDWQRLINNNWGFRPKRLSFKLFNIQVKEVTQNEG	TKTIANNLTSTIQVFTD
rh. 64-E	279	STPWGYFDENRFHCHFS	PRDWQRLINNNWGFRPKRLSFKLFNIQVKEVTQNEG	TKTIANNLTSTIQVFTD
hu. 42-E	279	STPWGYFDENRFHCHFS	PRDWQRLINNNWGFRPKRLSFKLFNIQVKEVTQNEG	TKTIANNLTSTIQVFTD
rh. 57-E	279	STPWGYFDENRFHCHFS	PRDWQRLINNNWGFRPKRLSFKLFNIQVKEVTQNEG	TKTIANNLTSTIQVFTD
hu. 40-E	279	STPWGYFDENRFHCHFS	PRDWQRLINNNWGFRPKRLSFKLFNIQVKEVTQNEG	TKTIANNLTSTIQVFTD
AAV8-E	279	STPWGYFDENRFHCHFS	PRDWQRLINNNWGFRPKRLSFKLFNIQVKEVTQNEG	TKTIANNLTSTIQVFTD
rh. 58-E	279	STPWGYFDENRFHCHFS	PRDWQRLINNNWGFRPKRLSFKLFNIQVKEVTQNEG	TKTIANNLTSTIQVFTD
rh. 40-E	279	STPWGYFDENRFHCHFS	PRDWQRLINNNWGFRPKRLSFKLFNIQVKEVTQNEG	TKTIANNLTSTIQVFTD
hu. 67-E	279	STPWGYFDENRFHCHFS	PRDWQRLINNNWGFRPKRLSFKLFNIQVKEVTQNEG	TKTIANNLTSTIQVFTD
hu. 17-E	279	STPWGYFDENRFHCHFS	PRDWQRLINNNWGFRPKRLSFKLFNIQVKEVTQNEG	TKTIANNLTSTIQVFTD
hu. 6-E	279	STPWGYFDENRFHCHFS	PRDWQRLINNNWGFRPKRLSFKLFNIQVKEVTQNEG	TKTIANNLTSTIQVFTD
hu. 66-E	279	STPWGYFDENRFHCHFS	PRDWQRLINNNWGFRPKRLSFKLFNIQVKEVTQNEG	TKTIANNLTSTIQVFTD
rh. 38-E	279	STPWGYFDENRFHCHFS	PRDWQRLINNNWGFRPKRLSFKLFNIQVKEVTQNEG	TKTIANNLTSTIQVFTD
hu. 32-F	278	STPWGYFDENRFHCHFS	PRDWQRLINNNWGFRPKRLSFKLFNIQVKEVTQNEG	TKTIANNLTSTIQVFTD
AAV9/hu	278	STPWGYFDENRFHCHFS	PRDWQRLINNNWGFRPKRLSFKLFNIQVKEVTQNEG	TKTIANNLTSTIQVFTD
hu. 31-F	278	STPWGYFDENRFHCHFS	PRDWQRLINNNWGFRPKRLSFKLFNIQVKEVTQNEG	TKTIANNLTSTIQVFTD
AAV5	337	DDYQLPYVVVNGTEGCL	PAFPQVFTLPQYGYATLNRD-NTENPTERS	SSFFCLEYFPSKMLRTGNNEEFT
AAV3-3	346	SEYQLPYVLGSAHQGCL	PPFPADVEMVPQYGYLTLLNG---	SQAVGRSSFFCYCLEYFPSQMLRTGNNFQFS
AAV4-4	337	SSYELPYVMDAQEGSL	PPFPNDVEMVPQYGYCGLVTGNTSQQTDR	NAFYCLEYFPSQMLRTGNNEEIT

FIG. 2N

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AAV1-A 347 SEYQLPYVLGSAHQGCLPPFPADVEMIPQYGylTLNNG---SQAVGRSSFYCLEYFPPSQMLRTGNNFTFS
hu.46-A 347 SEYQLPYVLGSAHQGRLPPFPADVEMIPQYGylTLNNG---SQAVGRSSSYCLEYFPPSQMLRTGNNFTFS
hu.48-A 347 SEYQLPYVLGSAHQGCLPPFPADVEMIPQYGylTLNNG---SQAVGRSSFYCLEYFPPSQMLRTGNNFTFS
hu.44-A 347 SEYQLPYVLGSAHQGCLPPFPADVEMIPQYGylTLNNG---SQAVGRSSFYCLEYFPPSQMLRTGNNFTFS
hu.43-A 348 SEYQLPYVLGSAHQGCLPPFPADVEMIPQYGylTLNNG---SQAVGRSSFYCLEYFPPSQMLRTGNNFTFS
AAV6-A 347 SEYQLPYVLGSAHQGCLPPFPADVEMIPQYGylTLNNG---SQAVGRSSFYCLEYFPPSQMLRTGNNFTFS
hu.34-B 346 SEYQLPYVLGSAHQGCLPPFPADVEMIPQYGylTLNNE---SQAVGRSSFYCLEYFPPSQMLRTGNNFTFS
hu.47-B 346 SEYQLPYVLGSAHQGCLPPFPADVEMIPQYGylTLNNG---SQAVGRSSFYCLEYFPPSQMLRTGNNFTFS
hu.29-B 346 SEYQLPYVLGSAHQGCLPPFPADVEMIPQYGylTLNNG---SQAVGRSSFYCLGYFPPSQMLRTGNNFTFS
hu.63-B 346 SEYQLPYVLGSAHQGCLPPFPADVEMIPQYGylTLNNG---SQAVGRSSFYCLEYFPPSQMLRTGNNFTFS
hu.56-B 346 LEYQLPYVLGSAHQGCLPPFPADVEMIPQYGylTLNNG---SQAVGRSSFYCLEYFPPSQMLRTGNNFTFS
hu.45-B 346 SGYQLPYVLGSAHQGCLPPFPADVEMIPQYGylTLNNG---SQAVGRSSFYCLEYFPPSQMLRTGNNFTFS
hu.57-B 345 LEYQLPYVLGSAHQGCLPPFPADVEMIPQYGylTLNNG---SQAVGRSSFYCLEYFPPSQMLRTGNNFTFS
hu.35-B 346 SEYQLPYVLGSAHQGCLPPFPADVEMIPQYGylTLNNG---SQAVGRSSFYCLEYFPPSQMLRTGNNFTFS
hu.58-B 346 SEYQLPYVLGSAHQGCLPPFPADVEMIPQYGylTLNNG---SQAVGRSSFYCLEYFPPSQMLRTGNNFTFS
hu.28-B 346 SEYQLPYVLGSAHQGCLPPFPADVEMIPQYGylTLNNG---SQAVGRSSFYCLEYFPPSQMLRTGNNFTFS
hu.51-B 346 SEYQLPYVLGSAHQGCLPPFPADVEMIPQYGylTLNNG---SQAVGRSSFYCLEYFPPSQMLRTGNNFTFS
hu.19-B 346 SEYQLPYVLGSAHQGCLPPFPADVEMIPQYGylTLNNG---SQAVGRSSFYCLEYFPPSQMLRTGNNFTFS
hu.49-B 346 SEYQLPYVPGSAHQGCLPPFPADVEMIPQYGylTLNNG---SQAVGRSSFYCLEYFPPSQMLRTGNNFTFS
hu.52-B 346 SEYQLPYVLGSAHQGCLPPFPADVEMIPQYGylTLNNG---SQAVGRSSFYCLEYFPPSQMLRTGNNFTFS
hu.13-B 346 SEYQLPYVLGSAHQGCLPPFPADVEMIPQYGylTLNNG---SQAVGRSSFYCLEYFPPSQMLRTGNNFTFS
AAV2-B 346 SEYQLPYVLGSAHQGCLPPFPADVEMIPQYGylTLNNG---SQAVGRSSFYCLEYFPPSQMLRTGNNFTFS
hu.20-B 346 SEYQLPYVLGSAHQGCLPPFPADVEMIPQYGylTLNNG---SQAVGRSSFYCLEYFPPSQMLRTGNNFTFS
hu.24-B 346 SEYQLPYVLGSAHQGCLPPFPADVEMIPQYGylTLNNG---SQAVGRSSFYCLEYFPPSQMLRTGNNFTFS
hu.64-B 346 SEYQLPYVLGSAHQGCLPPFPADVEMIPQYGylTLNNG---SQAVGRSSFYCLEYFPPSQMLRTGNNFTFS
hu.27-B 346 SGYQLPYVLGSAHQGCLPPFPADVEMIPQYGylTLNNG---SQAVGRSSFYCLEYFPPSQMLRTGNNFTFS
hu.21-B 346 SEYQLPYVLGSAHQGCLPPFPADVEMIPQYGylTLNNG---SQAVGRSSFYCLEYFPPSQMLRTGNNFTFS
hu.22-B 346 SEYQLPYVLGSAHQGCLPPFPADVEMIPQYGylTLNNG---SQAVGRSSFYCLEYFPPSQMLRTGNNFTFS
hu.23-B 346 SEYQLPYVLGSAHQGCLPPFPADVEMIPQYGylTLNNG---SQAVGRSSFYCLEYFPPSQMLRTGNNFTFS
hu.7-C 346 SEYQLPYVLGSAHQGCLPPFPADVEMIPQYGylTLNNG---SQAVGRSSFYCLEYFPPSQMLRTGNNFTFS

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hu. 61-C 346 SEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNG---SQAVGRSSFYCYCLEYFPPSQMLRTGNNFQFS
 rh. 56-C 346 SEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNG---SQAVGRSSFYCYCLEYFPPSQMLRTGNNFQFS
 hu. 9-C 346 SEYPLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNG---SQAVGRSSFYCYCLEYFPPSQMLRTGNNFTFS
 hu. 54-C 346 SEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNG---SQAVGRSSFYCYCLEYFPPSQMLRTGNNFQFS
 hu. 53-C 346 SEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNG---SQAVGRSSFYCYCLEYFPPSQMLRTGNNFQFS
 hu. 60-C 346 SEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNG---SQAVGRSSFYCYCLEYFPPSQMLRTGNNFQFS
 hu. 55-C 346 SEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNG---SQAVGRSSFYCYCLEYFPPSQMLRTGNNFQFS
 hu. 2-C 346 SEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNG---SQAVGRSSFYCYCLEYFPPSQMLRTGNNFQFS
 hu. 1-C 346 SEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNG---SQAVGRSSFYCYCLEYFPPSQMLRTGNNFQFS
 hu. 18-C 346 SEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNG---SQAVGRSSFYCYCLEYFPPSQMLRTGNNFQFS
 hu. 3-C 347 SEYQLPYVPGSAHQGCLPPFPADVFMVPQYGYLTLNNG---SQAVGRSSFYCYCLEYFPPSQMLRTGNNFQFS
 hu. 25-C 346 SEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNG---SQAVGRSPFYCYCLEYFPPSQMLRTGNNFQFS
 hu. 15-C 346 SGYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNG---SQAVGRSSFYCYCLEYFPPSQMLRTGNNFQFS
 hu. 16-C 346 SEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNG---SQAVGRSSFYCYCLEYFPPSQMLRTGNNFQFS
 hu. 11-C 346 SEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNG---SQAVGRSSFYCYCLEYFPPSQMLRTGNNFTFS
 hu. 10-C 346 SEYQLPYVLGSAHQGCLPPFPADVFTVPQYGYLTLNNG---SQAVGRSSFYCYCLEYFPPSQMLRTGNNLTFS
 hu. 4-C 346 SEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNG---SQAVGRSSFYCYCLEYFPPSQMLRTGNNFQFS
 rh. 54-D 348 SEYQLPYVLGSAHQGCLPPFPADVFMIPQYGYLTLNNG---SQSVGRSSFYCYCLEYFPPSQMLRTGNNFTFS
 rh. 48-D 348 SEYQLPYVLGSAHQGCLPPFPADVFMIPQYGYLTLNNG---SQSVGRSSFYCYCLEYFPPSQMLRTGNNFTFS
 rh. 55-D 348 SEYQLPYVLGSAHQGCLPPFPADVFMIPQYGYLTLNNG---SQSVGRSSFYCYCLEYFPPSQMLRTGNNFTFS
 rh. 62-D 348 SEYQLPYVLGSAHQGCLPPFPADVFMIPQYGYLTLNND---SQSVGRSSFYCYCLEYFPPSQMLRTGNNFTFS
 AAV7-D 348 SEYQLPYVLGSAHQGCLPPFPADVFMIPQYGYLTLNNG---SQSVGRSSFYCYCLEYFPPSQMLRTGNNFEFS
 rh. 52-E 349 SEYQLPYVLGSAHQGCLPPFPADVFMIPQYGYLTPNNG---SQAVGRSSFYCYCLEYFPPSQMLRTGNNFSFS
 rh. 51-E 349 SEYQLPYVLGSAHQGCLPPFPADVFMIPQYGYLTLNNG---SQAVGRSSFYCYCLEYFPPSQMLRTGNNFSFS
 hu. 39-E 349 SEYQPPYVLGSAHQGCLPPFPADVFMIPQYGYLTLNNG---SQAVGRSSFYCYCLEYFPPSQMLRTGNNFSFS
 rh. 53-E 349 SEYQLPYVLGSAHQGCLPPFPADVFMIPQYGYLTLNNG---SQAVGRSSFYCYCLEYFPPSQMLRTGNNFSFS
 hu. 37-E 349 SEYQLPYVLGSAHQGCLPPFPADVFMIPQYGYLTLNNG---SQAVGRSSFYCYCLEYFPPSQMLRTGNNFEFS
 rh. 43-E 348 SEYQLPYVLGSAHQGCLPPFPADVFMIPQYGYLTLNNG---SQAVGRSSFYCYCLEYFPPSQMLRTGNNFQFT
 rh. 50-E 349 SEYQLPYVLGSAHQGCLPPFPADVFMIPQYGYLTLNNG---SQAVGRSSFYCYCLEYFPPSQMLRTGNNFSFS
 rh. 49-E 349 SEYQLPYVLGSAHQGCLPPFPADVFMIPQYGNLTLNNG---SQAVGRSSFYCYCLEYFPPSQMLRTGNNFSFS

rh. 61-E 349 SEYQLPYVLGSAHQGCLPPFPADVEMI PQYGYLTLNNG---SQAVGRSSFYCLEYFPSQMLRTGNNFSEFS
 hu. 41-E 349 SEYQLPYVLGSAHQGCLPPFPADVEMI PQYGYLTLNNG---SQAVGRSSFYCLEYFPSQMLRTGNNFSEFS
 rh. 64-E 349 SEYQLPYVLGSAHQGCLPPFPADVEMI PQYGYLTLNNG---SQAVGRSSFYCLEYFPSQMLRTGNNFSEFS
 hu. 42-E 349 SEYQLPYVLGSAHQGCLPPFPADVEMI PQYGYLTLNNG---SQAVGRSSFYCLEYFPSQMLRTGNNFSEFS
 rh. 57-E 349 SEYQLPYVLGSAHQGCLPPFPADVEMI PQYGYLTLNNG---SQAVGRSSFYCLEYFPSQMLRTGNNFSEFS
 hu. 40-E 349 SEYQLPYVLGSAHQGCLPPFPADVEMI PQYGYLTLNNG---SQAVGRSSFYCLEYFPSQMLRTGNNSEFS
 AAV8-E 349 SEYQLPYVLGSAHQGCLPPFPADVEMI PQYGYLTLNNG---SQAVGRSSFYCLEYFPSQMLRTGNNFQFT
 rh. 58-E 349 SEYQLPYVLGSAHQGCLPPFPADVEMI PQYGYLTLNNG---SQAVGRSSFYCLEYFPSQMLRTGNNFSEFS
 rh. 40-E 349 SEYQLPYVLGSAHQGCLPPFPADVEMI PQYGYLTLNNG---SQAVGRSSFYCLEYFPSQMLRTGNNFSEFS
 hu. 67-E 349 SEYQLPYVLGSAHQGCLPPFPADVEMI PQYGYLTLNNG---SQAVGRSSFYCLEYFPSQMLRTGNNFSEFS
 hu. 17-E 349 SEYQLPYVLGSAHQGCLPPFPADVEMI PQYGYLTLNNG---SQAVGRSSFYCLEYFPSQMLRTGNNFSEFS
 hu. 6-E 349 SEYQLPYVLGSAHQGCLPPFPADVEMI PQYGYLTLNNG---SQAVGRSSFYCLEYFPSQMLRTGNNFSEFS
 hu. 66-E 349 SEYQLPYVLGSAHQGCLPPFPADVEMI PQYGYLTLNNG---SQAVGRSSFYCLEYFPSQMLRTGNNFSEFS
 rh. 38-E 349 SEYQLPYVLGSAHQGCLPPFPADVEMI PQYGYLTLNNG---SQAVGRSSFYCLEYFPSQMLRTGNNFSEFS
 hu. 32-F 348 SDYQLPYVLGSAHEGCLPPFPADVEMI PQYGYLTLNDG---SQAVGRSSFYCLEYFPSQMLRTGNNFQFS
 AAV9/hu 348 SDYQLPYVLGSAHEGCLPPFPADVEMI PQYGYLTLNDG---SQAVGRSSFYCLEYFPSQMLRTGNNFQFS
 hu. 31-F 348 SDYQLPYVLGSAHEGCLPPFPADVEMI PQYGYLTLNDG---SQAVGRSSFYCLEYFPSQMLRTGNNFQFS

FIG. 20

	430	440	450	460	470	480	490
						
AAV5	406	YNFEEVPFHSSFAPSQNLFKLANPLVDQYLYRFVSTN-----NTGGVQFNKNLAGRYANTYKNWFPGP					
AAV3-3	413	YTFEDVPFHSSYAHSQSLDRMLNPLIDQYLYLNRQTGTTSGTTNQSRLLSQAGPQMSLSQARNWLPGP					
AAV4-4	407	YSFEKVPFHSSYAHSQSLDRMLNPLIDQYLYLNRQTGTTGTLNAGTATNFTKLPTNFSNFKKNWLPGP					
AAV1-A	414	YTFEEVPFHSSYAHSQSLDRMLNPLIDQYLYLNRQTQ-NQSGSAQNKDLSFRGSPAGMSVQPKNWLPGP					
hu. 46-A	414	YTFEEVPLHSSCAHSQSLDRMLNPLIDQYLYLNRQTQ-NQSGSAQNKDLSFRGSPAGMSVQPKNWLPGP					
hu. 48-A	414	YTFEEVPFHSSYAHSQSLDRMLNPLIDQYLYLNRQTQ-NQSGSAQNKDLSFRGSPAGMSVQPKNWLPGP					
hu. 44-A	414	YTFEEVPFHSSYAHSQSLDRMLNPLIDQYLYPNRTQ-NQSGSAQNKDLSFRGSPAGMSVQPKNWLPGP					
hu. 43-A	415	YTFEEVPLHSSYAHSQSLDRMLNPLIVQYLYLNRQTQ-NQSGSAQNKDLSFRGSPAGMSVQPKNWLPGP					
AAV6-A	414	YTFEDVPFHSSYAHSQSLDRMLNPLIDQYLYLNRQTQ-NQSGSAQNKDLSFRGSPAGMSVQPKNWLPGP					
hu. 34-B	413	YTFEDVPFHSSYAHSQSLGRMLNPLIDQYLYLSRTN-TPSGTTTQSRQLQFSQAGASDIRDQSRNWLPGP					

hu. 47-B 413 YTFEDVPFHSSYAHQSLSLDRMLMNPIDQYLYYLSSTN-TPSGTTTQSRLLQFSQAGASDIRDQSRNWLPGP
hu. 29-B 413 YTFEDVPFHSSYAHQSLSLDRMLMNPIDQYLYYLSRTN-TPSGTTTQSRLLQFSQAGASDIRDQSRNWLPGP
hu. 63-B 413 YTFEDVPFHSSYAHQSLSLDRMLMNPIDQYLYYLSRTN-TPSGTTTQSRLLQFSQAGASDIRDQSRNWLPGP
hu. 56-B 413 YTFEDVPFHSSYAHQSLSLDRMLMNPIDQYLYYLSRTN-TPSGTTTQSRLLQFSQAGASDIRDQSRNWLPGP
hu. 45-B 413 YTFEDVPFHSSYAHQSLSLDRMLMNPIDQYLYYLSSTN-TPSGTTTQSRLLQFSQAGASDIRDQSRNWLPGP
hu. 57-B 412 YTFEDVPFHSSYAHQSLSLDRMLMNPIDQYLYYLSRTN-TPSGTTTQSRLLQFSQAGASDIRDQSRNWLPGP
hu. 35-B 413 YTFEDVPFHSSYAHQSLSLGRMLMNPIDQYLYYLSRTN-TPSGTTTQSRLLQFSQAGASDIRDQSRNWLPGP
hu. 58-B 413 YTFEDVPFHSSYAHQSLSLDRMLMNPIDQYLYYLSRTN-TPSGTTTQSRLLQFSQAGASDIRDQSRNWLPGP
hu. 28-B 413 YTFEDVPFHSSYAHQSLSLDRMLMNPIDQYLYYLSRTN-TPSGTTTQSRLLQFSQAGASDIRDQSRNWLPGP
hu. 51-B 413 YTFEDVPFHSGYAHQSLSLDRMLMNPIDQYLYYLSSTN-TPSGTTTQSRLLQFSQAGASDIRDQSRNWLPGP
hu. 19-B 413 YTFEDVPFHSSYAHQSLSLDRMLMNPIDQYLYYLSRTN-TPSGTTTMSRLQFSQAGASDIRDQSRNWLPGP
hu. 49-B 413 YTFEDVPFHSSYAHQSLSLDRMLMNPIDQYLYYLSRTN-TPSGTTTQSRLLQFSQAGASDIRDQSRNWLPGP
hu. 52-B 413 YTFEDVPFHSSYAHQSLSLDRMLMNPIDQYLYYLSSTN-TPSGTTTQSRLLQFSQAGASDIRDQSRNWLPGP
hu. 13-B 413 YTFEDVPFHSSYAHQSLSLDRMLMNPIDQYLYYLSRTN-TPSGTTTQSRLLQFSQAGASDIRDQSRNWLPGP
AAV2-B 413 YTFEDVPFHSSYAHQSLSLDRMLMNPIDQYLYYLSRTN-TPSGTTTQSRLLQFSQAGASDIRDQSRNWLPGP
hu. 20-B 413 YTFEDVPFHSSYAHQSLSLDRMLMNPIDQYLYYLSRTN-TPSGTTTMSRLQFSQAGASDIRDQSRNWLPGP
hu. 24-B 413 YTFEDVPFHSSYAHQSLSLDRMLMNPIDQYLYYLSRTN-TPSGTTTMSRLQFSQAGASDIRDQSRNWLPGP
hu. 64-B 413 YTFEDVPFHSSYAHQSLSLDRMLMNPIDQYLYYLSRTN-TPSGTTTQSRLLQFSQAGASDIRDQSRNWLPGP
hu. 27-B 413 YTFEDVPFHSSYAHQSLSLDRMLMNPIDQYLYYLSRTN-TPSGTTTMSRLQFSQAGASDVDRDQSRNWLPGP
hu. 21-B 413 YTFEDVPFHSSYAHQSLSLDRMLMNPIDQYLYYLSRTN-TPSGTTTMSRLQFSQAGASDIRDQSRNWLPGP
hu. 22-B 413 YTFEDVPFHSSYAHQSLSLDRMLMNPIDQYLYYLSRTN-TPSGTTTMSRLQFSQAGASDIRDQSRNWLPGP
hu. 23-B 413 YTFEDVPFHSSYAHQSLSLDRMLMNPIDQYLYYLSRTN-TPSGTTTMSRLQFSQAGASDIRDQSRNWLPGP
hu. 7-C 413 YTFEDVPFHSSYAHQSLSLDRMLMNPIDQYLYYLNKTQ-SNSGTLQQSRLLQFSQAGPTMSLQAKNWLPGP
hu. 61-C 413 YTFEDVPFHSSYAHQSLSLDRMLMNPIDQYLYYLNKTQ-TNSGTLQQSRLLQFSQAGPTNMSLQAKNRLPGP
rh. 56-C 413 YTFEDVPFHSSYAHQSLSLDRMLMNPIDQYLYYLNKTQ-SNSGTLQQSRLLQFSQAGPTMSLQAKNWLPGP
hu. 9-C 413 YTFEDVPFHSSYAHQSLSLDRMLMNPIDQYLYYLNRTQ-SNSGTLQQSRLLQFSQAGPTMSLQAKNWLPGP
hu. 54-C 413 YTFEDVPFHSSYAHQSGLDRMLMNPIDQYLYYLNRTQ-TASGT-QQSRLLQFSQAGPTMSLQAKNWLPGP
hu. 53-C 413 YTFEDVPFHSSYAHQSLSLDRMLMNPIDQYLYYLNRTQ-TASGT-QQSRLLQFSQAGPTMSLQAKNWLPGP
hu. 60-C 413 YTFEDVPFHSSYAHQSLSLDRMLMNPIDQYLYYLNKTQ-TNSGTLQQSRLLQFSQAGPTNMSLQAKNWLPGP
hu. 55-C 413 YTFEDVPFHSSYAHQSLSLDRMLMNPIDQYLYYLNRTQ-TASGT-QQSRLLQFSQAGPTMSLQAKNWLPGP

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hu.2-C 413 YTFEDVPFHSSYAHQSQSLDRIMNPLIDQYLYYLNKTQ-TNSGTLQQSRLLFSQAGPTNMSLQAKNWLPGP
 hu.1-C 413 YTFEDVPFHSSYAHQSQSLDRIMNPLIDQYLYYLNKTQ-TNSGTLQQSRLLFSQAGPTNMSLQAKNWLPGP
 hu.18-C 413 YTFEDVPFHSSYAHQSQSLDRIMNPLIDQYLYYLNKTQ-SNSGTLQQSRLLFSQAGPTNMSLQAKNWLPGP
 hu.3-C 414 YTFEDVPFHSSYAHQSQSLDRIMNPLIDQYLYYLNKTQ-TNSGTLQQSRLLFSQAGPTNMSLQAKNWLPGP
 hu.25-C 413 YTFEDVPFHSSYAHQSQSLDRIMNPLIDQYLYYLNKTQ-TNSGTLQQSRLLFSQAGPTNMSLQAKNWLPGP
 hu.15-C 413 YTFEDVPFHSSYAHQSQSLDRIMNPLIDQYLYYLNKTQ-SNSGTLQQSRLLFSQAGPTNMSLQAKNWLPGP
 hu.16-C 413 YTFEDVPFHSSYAHQSQSLDRIMNPLIDQYLYYLNKTQ-SNSGTLQQSRLLFSQAGPTNMSLQAKNWLPGP
 hu.11-C 413 YTFEDVPFHSSYAHQSQSLDRIMNPLIDQYLYYLNKTQ-SNSGTLQQSRLLFSQAGPTNMSLQAKNWLPGP
 hu.10-C 413 YTFEDVPFHSSYAHQSQSLDRIMNPLIDQYLYYLNKTQ-SNSGTLQQSRLLFSQAGPTNMSLQAKNWLPGP
 hu.4-C 413 YTFEDVPFHSSYAHQSQSLDRIMNPLIDQYLYYLNKTQ-TNSGTLQQSRLLFSQAGPTNMSLQAKNWLPGP
 rh.54-D 415 YTFEDVPFHSSYAHQSQSLDRIMNPLIDQYLYYLNKTQ-TNSGTLQQSRLLFSQAGPTNMSLQAKNWLPGP
 rh.48-D 415 YTFEDVPFHSSYAHQSQSLDRIMNPLIDQYLYYLNKTQ-TNSGTLQQSRLLFSQAGPTNMSLQAKNWLPGP
 rh.55-D 415 YTFEDVPFHSSYAHQSQSLDRIMNPLIDQYLYYLNKTQ-TNSGTLQQSRLLFSQAGPTNMSLQAKNWLPGP
 rh.62-D 415 YTFEDVPFHSSYAHQSQSLDRIMNPLIDQYLYYLNKTQ-TNSGTLQQSRLLFSQAGPTNMSLQAKNWLPGP
 AAV7-D 415 YTFEDVPFHSSYAHQSQSLDRIMNPLIDQYLYYLNKTQ-TNSGTLQQSRLLFSQAGPTNMSLQAKNWLPGP
 rh.52-E 416 YTFEDVPFHSSYAHQSQSLDRIMNPLIDQYLYYLNKTQ-TNSGTLQQSRLLFSQAGPTNMSLQAKNWLPGP
 rh.51-E 416 YTFEDVPFHSSYAHQSQSLDRIMNPLIDQYLYYLNKTQ-TNSGTLQQSRLLFSQAGPTNMSLQAKNWLPGP
 hu.39-E 416 YTFEDVPFHSSYAHQSQSLDRIMNPLIDQYLYYLNKTQ-TNSGTLQQSRLLFSQAGPTNMSLQAKNWLPGP
 rh.53-E 416 YTFEDVPFHSSYAHQSQSLDRIMNPLIDQYLYYLNKTQ-TNSGTLQQSRLLFSQAGPTNMSLQAKNWLPGP
 hu.37-E 416 YTFEDVPFHSSYAHQSQSLDRIMNPLIDQYLYYLNKTQ-TNSGTLQQSRLLFSQAGPTNMSLQAKNWLPGP
 rh.43-E 415 YTFEDVPFHSSYAHQSQSLDRIMNPLIDQYLYYLNKTQ-TNSGTLQQSRLLFSQAGPTNMSLQAKNWLPGP
 rh.50-E 416 YTFEDVPFHSSYAHQSQSLDRIMNPLIDQYLYYLNKTQ-TNSGTLQQSRLLFSQAGPTNMSLQAKNWLPGP
 rh.49-E 416 YTFEDVPFHSSYAHQSQSLDRIMNPLIDQYLYYLNKTQ-TNSGTLQQSRLLFSQAGPTNMSLQAKNWLPGP
 rh.61-E 416 YTFEDVPFHSSYAHQSQSLDRIMNPLIDQYLYYLNKTQ-TNSGTLQQSRLLFSQAGPTNMSLQAKNWLPGP
 hu.41-E 416 YTFEDVPFHSSYAHQSQSLDRIMNPLIDQYLYYLNKTQ-TNSGTLQQSRLLFSQAGPTNMSLQAKNWLPGP
 rh.64-E 416 YTFEDVPFHSSYAHQSQSLDRIMNPLIDQYLYYLNKTQ-TNSGTLQQSRLLFSQAGPTNMSLQAKNWLPGP
 hu.42-E 416 YTFEDVPFHSSYAHQSQSLDRIMNPLIDQYLYYLNKTQ-TNSGTLQQSRLLFSQAGPTNMSLQAKNWLPGP
 rh.57-E 416 YTFEDVPFHSSYAHQSQSLDRIMNPLIDQYLYYLNKTQ-TNSGTLQQSRLLFSQAGPTNMSLQAKNWLPGP
 hu.40-E 416 YTFEDVPFHSSYAHQSQSLDRIMNPLIDQYLYYLNKTQ-TNSGTLQQSRLLFSQAGPTNMSLQAKNWLPGP
 AAV8-E 416 YTFEDVPFHSSYAHQSQSLDRIMNPLIDQYLYYLNKTQ-TNSGTLQQSRLLFSQAGPTNMSLQAKNWLPGP

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rh. 58-E	416	YTFEDVPFHSSYAHQS	SLDRIMNPLIDQYLYLSRTQS-TGGTAGTQQLLFSQAGPSNMSAQARNWLP	PGP
rh. 40-E	416	YTFEDVPFHSSYAHQS	SLDRIMNPLIDQYLYLSRTQS-TGGTQGTQQLLFSQAGPANMSARAKNWL	PGP
hu. 67-E	416	YTFEDVPFHSGYAHQS	SLDRIMNPLIDQYLYLSRTQS-TGGTQGTQQLLFSQAGPANMSAQAKNWL	PGP
hu. 17-E	416	YQFEDVPFHSSYAHQS	SLDRIMNPLIDQYLYLSRTQS-TGGTAGTQQLLFSQAGPNMSAQAKNWL	PGP
hu. 6-E	416	YQFEDVPFHSSYAHQS	SLDRIMNPLIDQYLYLSRTQS-TGGTAGTQQLLFSQAGPNMSAQAKNWL	PGP
hu. 66-E	416	YTFEDVPFHSSCAHS	QSSDRIMNPLIDQYLYLSRTRS-TGGTQGTQQLLFSQAGPANMSAQAKNWL	PGP
rh. 38-E	416	YTFEDVPFHSSYAHQS	SLDRIMNPLIDQYLYLSRTQS-TGGTQGTQQLLFSQAGPANMSAQAKNWL	PGP
hu. 32-F	415	YEFENVPFHSSYAHQS	SLDRIMNPLIDQYLYLSKTINGSG--QNQQTLLKFSVAGPSNMAVQGRN	YIPGP
AAV9/hu	415	YEFENVPFHSSYAHQS	SLDRIMNPLIDQYLYLSKTINGSG--QNQQTLLKFSVAGPSNMAVQGRN	YIPGP
hu. 31-F	415	YEFENVPFHSSYAHQS	SLDRIMNPLIDQYLYLSKTINGSG--QNQQTLLKFSVAGPSNMAVQGRN	YIPGP

AAV5	469	MGR	TQGNL	SGVN----	RAS	VSA	FAT	TNR	ME	LE	GA	SY	QV	PP	Q	P	NG	M	T	N	N	L	Q	S	N	T	Y	A	L	E	N	T	M	I	F	N	S	Q
AAV3-3	483	CYR	Q	R	L	S	K	T	A	N	D	N	-----	N	N	S	N	F	P	T	A	A	S	K	Y	H	L	N	G	R	D	S	L	V	N	P	G	
AAV4-4	477	S	I	K	Q	G	F	S	K	T	A	N	Q	N	Y	K	I	P	A	T	G	S	D	S	L	I	K	Y	E	T	H	S	T	L	D	G	R	
AAV1-A	483	CYR	Q	R	V	S	K	T	D	N	-----	N	N	S	N	F	T	W	T	G	A	S	K	Y	N	L	N	G	R	E	S	I	N	P	G	T	A	
hu. 46-A	483	CYR	Q	R	V	S	K	T	D	N	-----	N	N	S	N	F	T	W	T	G	A	S	K	Y	N	L	N	G	R	E	S	I	N	P	G	T		
hu. 48-A	483	CYR	Q	R	V	S	K	T	D	N	-----	N	N	S	N	F	T	W	T	G	A	S	K	Y	N	L	N	G	R	E	S	I	N	P	G	T		
hu. 44-A	483	CYR	Q	R	V	S	K	T	D	N	-----	N	N	S	N	F	T	W	T	G	A	S	K	Y	N	L	N	G	R	E	S	I	N	P	G	T		
hu. 43-A	484	CYR	Q	R	V	S	K	T	D	N	-----	N	N	S	N	F	T	W	T	G	A	S	K	Y	N	L	N	G	R	E	S	I	N	P	G	T		
AAV6-A	483	CYR	Q	R	V	S	K	T	D	N	-----	N	N	S	N	F	T	W	T	G	A	S	K	Y	N	L	N	G	R	E	S	I	N	P	G	T		
hu. 34-B	482	CYR	Q	R	V	S	K	T	S	A	D	N	-----	N	N	S	E	S	W	T	G	A	T	K	Y	H	L	N	G	R	D	S	L	V	N	P		
hu. 47-B	482	CYR	Q	R	V	S	K	T	S	A	D	N	-----	N	N	S	E	S	W	T	G	A	T	K	Y	H	L	N	G	R	D	S	L	V	N			
hu. 29-B	482	CYR	Q	R	V	S	K	T	S	A	D	N	-----	N	N	S	E	S	W	T	G	A	T	K	Y	H	L	N	G	R	D	S	L	V				
hu. 63-B	482	CYR	Q	R	V	S	K	T	S	A	D	N	-----	N	N	S	E	S	W	T	G	A	T	K	Y	H	L	N	G	R	D	S	L					
hu. 56-B	482	CYR	Q	R	V	S	K	T	A	A	D	N	-----	N	N	S	E	S	W	T	G	A	T	K	Y	H	L	N	G	R	D	S	L					
hu. 45-B	482	CYR	Q	R	V	S	K	T	S	A	D	N	-----	N	N	S	E	S	W	T	G	A	T	K	Y	H	L	N	G	R	D	S	L					
hu. 57-B	481	CYR	Q	R	V	S	K	T	A	A	D	N	-----	N	N	S	E	S	W	T	G	A	T	K	Y	H	L	N	G	R	D	S	L					
hu. 35-B	482	CYR	Q	R	V	S	K	T	S	A	D	N	-----	N	N	S	E	S	W	T	G	A	T	K	Y	H	L	N	G	R	D	S	L					

FIG. 24

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hu. 58-B 482 CYRQQRVSKTSADN-----NNSEYSWIGATKYHHLNGRDSLVPNPGPAMASHKDDDEEKFFPQSGVLI FGKQG
 hu. 28-B 482 CYRQQRVSKTSADN-----NNSEYSWTGATKYHHLNGRDSLVPNPGPAMASHKDDDEEKFFPQSGVLI FGKQG
 hu. 51-B 482 CYRQQRVSKTSADN-----NNSEYSWTGATKYHHLNGRDSLVPNPGPAMASHKDDNEEKFFPQSGVLI FGKQG
 hu. 19-B 482 CYRQQRVSKTAADN-----NNSDYSWTGATKYHHLNGRDSLVPNPGPAMASHKDDDEEKYFFPQSGVLI FGKQD
 hu. 49-B 482 CYRQQRVSKTAADN-----NNSEYSWTGATKYHHLNGRDSLVPNPGPAMASHKDDDEEKFFPQSGVLI FGKQG
 hu. 52-B 482 CYRQQRVSKTSADN-----NNSEYSWTGATKYHHLNGRDSLVPNPGPAMASHKDDNEEKFFPQSGVLI FGKQG
 hu. 13-B 482 CYRQQRVSKTSADN-----NNSEYSWTGATKYHHLNGRDSLVPNPGPAMASHKDDDEEKFFPQSGVLI FGKQG
 AAV2-B 482 CYRQQRVSKTSADN-----NNSEYSWTGATKYHHLNGRDSLVPNPGPAMASHKDDDEEKFFPQSGVLI FGKQG
 hu. 20-B 482 CYRQQRVSKTAADN-----NNSDYSWTGATKYHHLNGRDSLVPNPGPAMASHKDDDEEKYFFPQSGVLI FGKQD
 hu. 24-B 482 CYRQQRVSKTAADN-----NNSDYSWTGATKYHHLNGRDSLVPNPGPAMASHKDDDEEKYFFPQSGVLI FGKQD
 hu. 64-B 482 CYRQQRVSKTSADN-----NNSEYSWTGATKYHHLNGRDSLVPNPGPAMASHKDDDEEKFFPQSGVLI FGKQD
 hu. 27-B 482 CYRQQRVSKTAADN-----NNSDYSWTGATKYHHLNGRDSLVPNPGPAMASHKDDDEEKYFFPQSGVLI VFGKQD
 hu. 21-B 482 CYRQQRVSKTAADN-----NNSDYSWTGATKYHHLNGRDSLVPNPGPAMASHKDDDEEKYFFPQSGVLI FGKQD
 hu. 22-B 482 CYRQQRVSKTAADN-----NNSDYSWTGATKYHHLNGRDSLVPNPGPAMASHKDDDEEKYFFPQSGVLI FGKQD
 hu. 23-B 482 CYRQQRVSKTAADN-----NNSDYSWTGATKYHHLNGRDSLVPNPGPAMASHKDDDEEKYFFPQSGVLI FGKQD
 hu. 7-C 482 CYRQQRLSKQANDN-----NNSNFPWTAATKYHHLNGRDSLVPNPGPAMASHKDDDEEKFFPMMHGTLI FGKQG
 hu. 61-C 482 CYRQQRLSKQANDN-----NNSNFPWTAATKYHHLNGRDSLVPNPGPAMASHKDDDEEKFFPMMHGTLI FGKQG
 rh. 56-C 482 CYRQQRLSKQANDN-----NNSNFPWTAATKYHHLNGRDSLVPNPGPAMASHKDDDEEKFFPMMHGTLI FGKQG
 hu. 9-C 482 CYRQQRLSKQANDN-----NNSNFPWTAATKYHHLNGRDSLVPNPGPAMASHKDDDEEKFFPMMHGTLI FGKQG
 hu. 54-C 481 CYRQQRLSKQANDN-----NNSNFPWTAATKYHHLNGRDSLVPNPGPAMASHKDDDEEKFFPMMHGTLI FGKEG
 hu. 53-C 481 CYRQQRLSKQANDN-----NNSNFPWTAATKYHHLNGRDSLVPNPGPAMASHKDDDEEKFFPMMHGTLI FGKEG
 hu. 60-C 482 CYRQQRLSKQANDN-----NNSNFPWTAATKYHHLNGRDSLVPNPGPAMASHKDDDEEKFFPMMHGTLI FGKQG
 hu. 55-C 481 CYRQQRLSKQANDN-----NNSNFPWTAATKYHHLNGRDSLVPNPGPAMASHKDDDEEKFFPMMHGTLI FGKEG
 hu. 2-C 482 CYRQQRLSKQANDN-----NNSNFPWTAATKYHHLNGRDSLVPNPGPAMASHKDDDEEKFFPMMHGTLI FGKQG
 hu. 1-C 482 CYRQQRLSKQANDN-----NNSNFPWTAATKYHHLNGRDSLVPNPGPAMASHKDDDEEKFFPMMHGTLI FGKQG
 hu. 18-C 482 CYRQQRLSKQANDN-----NNSNFPWTAATKYHHLNGRDSLVPNPGPAMASHKDDDEEKFFPMMHGTLI FGKQG
 hu. 3-C 483 CYRQQRLSKQANDN-----NNSNFPWTAATKYHHLNGRDSLVPNPGPAMASHKDDDEEKFFPMMHGTLI FGKQG
 hu. 25-C 482 CYRQQRLSKQANDN-----NNSNFPWTAATKYHHLNGRDSLVPNPGPAMASHKDDDEEKFFPMMHGTLI FGKQG
 hu. 15-C 482 CYRQQRLSKQANDN-----NNSNFPWTAATKYHHLNGRDSLVPNPGPAMASHKDDDEEKFFPMMHGTLI FGKQG
 hu. 16-C 482 CYRQQRLSKQANDN-----NNSNFPWTAATKYHHLNGRDSLVPNPGPAMASHKDDDEEKFFPMMHGTLI FGKQG

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hu.11-C 482 CYRQRLSKQANDN-----NNSNFPWTAATKYRLNGRDSLVPNGPAMASHKDDDEKFFPMHGTLI FGKQG
 hu.10-C 482 CYRQRLSKQANDN-----NNSNFPWTAATKYHLNGRDSLVPNGPAMASHKDDDEKFFPMHGTLI FGKQG
 hu.4-C 482 CYRQRLSKQANDN-----NNSNFPWTAATKYHLNGRDSLVPNGPAMASHKDDDEKFFPMHGTLI FGKQG
 rh.54-D 485 CFRQQRVSKTLDQN-----NNSNFAWTGATKYHLNGRNSLVNPGVAMATHKDDDEDRFFPSSGVLI FGKTG
 rh.48-D 485 CFRQQRVSKTLDQN-----NNSNFAWTGATKYHLNGRNSLVNPGVAMATHKDDDEERFFPSSGVLI FGKTG
 rh.55-D 485 CFRQRRVSKTLDQN-----NNSNFAWTGATKYHLNGRNSLVNPGVAMATHKDDDEERFFPSSGVLI FGKTG
 rh.62-D 485 CFRQQRVSKTLDQN-----NNSNFAWTGATKYHLNGRNSLVNPGVAMATHKDDDEERFFPSSGVLI FGKTG
 AAV7-D 485 CFRQQRVSKTLDQN-----NNSNFAWTGATKYHLNGRNSLVNPGVAMATHKDDDEDRFFPSSGVLI FGKTG
 rh.52-E 485 CYRQQRVSTTLSQN-----NNSNFAWTGATKYHLNGRDSLVPNGVAMATNKDDDEDRFFPSSGILMFGKQG
 rh.51-E 485 CYRQQRVSTTLSQN-----NNSNFAWTGATKYHLNGRDSLVPNGVAMATNKDDDEDRFFPSSGILMFGKQG
 hu.39-E 485 CYRQQRVSTTLSQN-----NNSNFAWTGATKYHLNGRDSLVPNGVAMATNKDDDEDRFFPSSGILMFGKQG
 rh.53-E 485 CYRQQRVSTTLSQN-----NNSNFAWTGATKYHLNGRDSLVPNGVAMATNKDDDEDRFFPSSGILMFGKQG
 hu.37-E 485 CYRQQRVSTTLSQN-----NNSNFAWTGATKYHLNGRDSLVPNGVAMATHKDDDEERFFPSSGVLMFGKQG
 rh.43-E 484 CYRQQRVSTTGSQN-----NNSNFAWTAGTKYHLNGRNSLANPGIAMATHKDDDEERFFVTG-SCFWQQN
 rh.50-E 485 CYRQQRVSTTLSQN-----NNSNFAWTGATKYHLNGRDSLVPNGVAMATNKDDDEDRFFPSSGILMFGKQG
 rh.49-E 485 CYRQQRVSTTLSQN-----NNSNFAWTGATKYHLNGRDSLVPNGVAMATNKDDDEDRFFPSSGILMFGKQG
 rh.61-E 485 CYRQQRVSTTLSQN-----NNSNFAWTGATKYHLNGRDSLVPNGVAMATNKDDDEDRFFPSSGILMFGKQG
 hu.41-E 485 CYRQQRVSTTLSQN-----NNSNFAWTGATKYHLNGRDSLVPNGVAMATHKDDDEERFFPSSGVLMFGKQG
 rh.64-E 485 CYRQQRVSTTLSQN-----NNSNFAWTGATKYHLNGRDSLVPNGVAMATNKDDDEDRFFPSSGILMFGKQG
 hu.42-E 485 CYRQQRVSTTLSQS-----NNSNFAWTGATKYHLNGRDSLVPNGVAMATHKDDDEERFFPSSGVLMFGKQG
 rh.57-E 485 CYRQQRVSTTLSQN-----NNSNFAWTGATKYHLNGRDSLVPNGVAMATNKDDDEDRFFPSSGILMFGKQG
 hu.40-E 485 CYRQQRVSTTLSQN-----NNSNFAWTGATKYHLNGRDSLVPNGVAMATHKDDDEERFFPSSGVLMFGKQG
 AAV8-E 485 CYRQQRVSTTGSQN-----NNSNFAWTAGTKYHLNGRNSLANPGIAMATHKDDDEERFFPSNGILIFGKQN
 rh.58-E 485 CYRQQRVSTTLSQN-----NNSNFAWTGATKYHLNGRDSLVPNGVAMATNKDDDEDRFFPSSGILMFGKQG
 rh.40-E 485 CYRQQRVSTTLSQN-----NNSNFAWTGATKYHLNGRDSLVPNGVAMATHKDDDEERFFPSSGVLMFGKQG
 hu.67-E 485 CYRQQRVSTTLSQN-----NNSNFAWTGATKYHLNGRDSLVPNGVAMATHKDDDEERFFPSSGVLMFGKQG
 hu.17-E 485 CYRQQRVSTTLSQN-----NNSNFAWTGATKYHLNGRDSLVPNGVAMATHKDDDEERFFPSSGVLMFGKQG
 hu.6-E 485 CYRQQRVSTTLSQN-----NNSNFAWTGATKYHLNGRDSLVPNGVAMATHKDDDEERFFPSSGVLMFGKQG
 hu.66-E 485 CYRQQRVSTTLSQN-----NNSNFAWTGATKYHLNGRDSLVPNGVAMATHKDDDEERFFPSSGVLMFGKQG
 rh.38-E 485 CYRQQRVSTTLSQN-----NNSNFAWTGATKYHLNGRDSLVPNGVAMATHKDDDEERFFPSSGVLMFGKQG

FIG. 2V

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hu.32-F 483 SYRQQRVSTTVTON-----NNSEFAWPAGASSWALNGRNSLMNPGPAMASHKEGEDRFFPLSGSLIFGKQG
 AAV9/hu 483 SYRQQRVSTTVTON-----NNSEFAWPAGASSWALNGRNSLMNPGPAMASHKEGEDRFFPLSGSLIFGKQG
 hu.31-F 483 SYRQQRVSTTVTON-----NNSEFAWPAGASSWALNGRNSLMNPGPAMASHKEGEDRFFPLSGSLIFGKQG

 AAV5 534 ANPGTTATYLEGNMLITSESETQPVNRVAYNVGGQMATNNQSSSTTAPATGTYNLQEI VPGSVWMERDVYL
 AAV3-3 548 T--TASNAELD-NVMITDEEEI RTTNPVATEQYGTVANNLQSSNTAPTGTGNHQLGALPGMVWQDRDVYL
 AAV4-4 546 N--GNTATVPG-TLIFTSEEE LAATNATDTDMWGNLPGGDQSSNSNLP TVDRLTALGAVPGMVWQNRDIYY
 AAV1-A 548 A--GASNTALD-NVMITDEEEI KATNPVATERFGTVAVNFQSSSTDPATGDVHAMGALPGMVWQDRDVYL
 hu.46-A 548 A--GASNTALD-NVMITDEEEI KATNPVATERFGTVAVNFQSSSTDPATGDVHAMGALPGMVWQDRDVYL
 hu.48-A 548 A--GASNTALD-NVMITDEEEI KATNPVATERFGTVAVNFQSSSTDPATGDVHAMGALPGMVWQDRDVYL
 hu.44-A 548 A--GASNTALD-NVMITDEEEI KATNPVATERFGTVAVNFQSSSTDPATGDVHAMGALPGMVWQGRDVYL
 hu.43-A 549 A--GASNTALD-NVMITDEEEI KATNPVATERFGTVAVNFQSSSTDPATGDVHAMGALPGMVWQDRDVYL
 AAV6-A 548 A--GASNTALD-NVMITDEEEI KATNPVATERFGTVAVNLQSSSTDPATGDVHVMGALPGMVWQDRDVYL
 hu.34-B 547 S--EKTNV D I E-KVMITDEEEI RTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGVLPGMVWQDRDVYL
 hu.47-B 547 S--EKTNV D I E-KVMITDEEEI RTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGVLPGMVWQDRDVYL
 hu.29-B 547 P--EKTNV D I E-KVMITDEEEI RTTNPVATEQYGSVSTNLQSGNTQAATADVNTQGVLPGMVWQDRDVYL
 hu.63-B 547 S--GKTNV D I E-KVMITDEEEI RTTNPVATEQYGSVSTNLQSGNTQAATSDVNTQGVLPGMVWQDRDVYL
 hu.56-B 547 S--EKTNV D I E-KVMITDEEEI RTTNPVATEQYGSVSTNLQSGNTQAATSDVNTQGVLPGMVWQDRDVYL
 hu.45-B 547 S--EKTNV D I E-KVMITDEEEI RTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGVLPGMVWQDRDVYL
 hu.57-B 546 S--EKTNV D I E-KVMITDEEEI RTTNPVATEQYGSVSTNLQSGNTRAATSDVNTQGVLPGMVWQDRDVYL
 hu.35-B 547 S--EKTNV D I E-KVMITDEEEI RTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGVLPGMVWQDRDVYL
 hu.58-B 547 S--EKTNV D I E-KVMITDEEEI RTTNPVATEQYGSVSTNLQSGNTQAATADVNTQGVLPGMVWQDRDVYL
 hu.28-B 547 S--EKTNV D I E-KVMITDEEEI RTTNPVATEQYGSVSTNLQSGNTQAATADVNTQGVLPGMVWQDRDVYL
 hu.51-B 547 S--EKTNV D I E-KVMITDEEEI RTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGVLPGMVWQDRDVYL
 hu.19-B 547 S--GKTNV D I E-KVMITDEEEI RTTNPVATEQYGSVSTNLQSGNTQAATSDVNTQGVLPGMVWQDRDVYL
 hu.49-B 547 S--EKTNV D I E-KVMITDEEEI RTTNPVATEQYGSVSTNLQSGNTQAATADVNTQGVLPGMVWQDRDVHL
 hu.52-B 547 S--EKTNV D I E-KVMITDEEEI RTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGVLPGMVWQDRDVYL
 hu.13-B 547 S--EKTNV D I E-KVMITDEEEI RTTNPVATEQYGSVSTNLQGGNTQAATADVNTQGVLPGMVWQDRDVYL

FIG. 2W

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AAV2-B 547 S--EKTNVVDIE-KVMITDEEEIRTTNPVATEQYGSVSTNLQRGNRQAATADVNTQGVLPGMVWQDRDVYL
 hu.20-B 547 S--GKTNVVDIE-KVMITDEEEIRTTNPVATEQYGSVSTNLQSGNTQAATSDVNTQGVLPGMVWQDRDVYL
 hu.24-B 547 S--GKTNVVDIE-KVMITDEEEIRTTNPVATEQYGSVSTNLQSGNTQAATSDVNTQGVLPGMVWQDRDVYL
 hu.64-B 547 S--GKTNVVDIE-KVMITDEEEIRTTNPVATEQYGSVSTNLQSGNTQAATSDVNTQGVLPGMVWQDRDVYL
 hu.27-B 547 S--GKTNVVDIE-KVMITDEEEIRTTNPVATEQYGSVSTNLQSGNTQAATSDVNTQGVLPGMVWQDRDVYL
 hu.21-B 547 S--GKTNVVDIE-KVMITDEEEIRTTNPVATEQYGSVSTNLQSGNTQAATSDVNTQGVLPGMVWQDRDVYL
 hu.22-B 547 S--GKTNVVDIE-KVMITDEEEIRTTNPVATEQYGSVSTNLQSGNTQAATSDVNTQGVLPGMVWQDRDVYL
 hu.23-B 547 S--GKTNVVDIE-KVMITDEEEIRTTNPVATEQYGSVSTNLQSGNTQAATSDVNTQGVLPGMVWQDRDVYL
 hu.7-C 547 T--NANDADLD-NVMITDEEEIRTTNPVATEQYGYVSNNLQNSNTGPTTGTVNHQGALPGMVWQDRDVYL
 hu.61-C 547 T--NANDADLE-NVMITDEEEIRTTNPVATEQYGTVSNNLQNSNTGPTTGTVNHQGALPGMVWQDRDVYL
 rh.56-C 547 T--NANDADLD-NVMITDEEEIRTTNPVATEQYGYVSNNLQNSNTGPTTGTVNHQGALPGMVWQDRDVYL
 hu.9-C 547 T--NANDADLE-HVMITDEEEIRTTNPVATEQYGNVSNNLQNSNTGPTTENNVNHQGALPGMVWQDRDVYL
 hu.54-C 546 T--NATNAELE-NVMITDEEEIRTTNPVATEQYGYVSNNLQNSNTAASTETVNHQGALPGMVWQDRDVYL
 hu.53-C 546 T--NATNAELE-NVMITDEEEIRTTNPVATEQYGYVSNNLQNSNTAASTETVNHQGALPGMVWQDRDVYL
 hu.60-C 547 T--NANDADLE-NVMITDEEEIRTTNPVATEQYGTVSNNLQNSNTGPTTGTVNHQGALPGMVWQDRDVYL
 hu.55-C 546 T--NATNAELE-NVMITDEEEIRTTNPVATEQYGYVSNNLQNSNTAASTETVNHQGALPGMVWQDRDVYL
 hu.2-C 547 T--NANDADLE-NVMITDEEEIRATNPVATEQYGTVSNNLQNSNTGPTTGTVNRQGALPGMVWQDRDVYL
 hu.1-C 547 T--NANDADLE-NVMITDEEEIRATNPVATEQYGTVSNNLQNSNTGPTTGTVNHQGALPGMVWQDRDVYL
 hu.18-C 547 T--NANDADLD-NVMITDEEEIRTTNPVATEQYGYVSNNLQNSNTGPTTGTVNHQGALPGMVWQDRDVYL
 hu.3-C 548 T--NANDADLE-NVMITDEEEIRPTNPVATEQYGTVSNNLQNSNTGPTTGTVNHQGALPGMVWQDRDVYL
 hu.25-C 547 T--NANDADLE-NVMITDEEEIRTTNPVATEQYGTVSNNLQNSNTGPTTGTVNHQGALPGMVWQDRDVYL
 hu.15-C 547 T--NANDADLD-NVMITDEEEIRTTNPVATEQYGYVSNNLQNSNTGPTTGTVNHQGALPGMVWQDRDVYL
 hu.16-C 547 T--NANDADLD-NVMITDEEEIRTTNPVATEQYGYVSNNLQNSNTGPTTGTVNHQGALPGMVWQDRDVYL
 hu.11-C 547 T--NANDADLE-HVMITDEEEIRTTNPVATEQYGNVSNNLQNSNTGPTTENNVNHQGALPGMVWQDRDVYL
 hu.10-C 547 T--NANDADLE-HVMITDEEEIRTTNPVATEQYGNVSNNLQNSNTGPTTENNVNHQGALPGMVWQDRDVYL
 hu.4-C 547 T--NANDADLE-NVMITDEEEIRATNPVATEQYGTVSNNLQNSNTGPTTGTVNHQGALPGMVWQDRDVYL
 rh.54-D 550 A--TN-KTTLE-NVLMTNEEEIRPTNPVATEEYGISSNLQAANTAAQTQVVNNQGALPGMVWQNRDVYL
 rh.48-D 550 A--AN-KTTLE-NVLMTNEEEIRPTNPVATEEYGTSSNLQAANTAAQTQVVNNQGALPGMVWQNRDVYL
 rh.55-D 550 A--AN-KTTLE-NVLMTNEEEIRPTNPVATEEYGTSSNLQAANTAAQTQVVNNQGALPGMVWQNRDVYL
 rh.62-D 550 A--AN-KTTLE-NVLMTNEEEIRPTNPVATEEYGTSSNLQAANTAAQTQVVNNQGALPGMVWQNRDVYL

AAV7-D	550	A--TN-KTTL-NVLMTNEEEIRPTNPVATEEYGISSNLQAANTAAQTQVNNQGALPGMVWQNRDVYL	640	650	660	670	680	690	700
rh. 52-E	550	A--GKDNVDYS-NVMLTSEEEIKTTNPVATEQYGVADNLQQQNTAPIVGAVNSQGALPGMVWQNRDVYL							
rh. 51-E	550	A--GKDNVDYS-NVMLTSEEEIKTTNPVATEQYGVADNLQQQNTAPIVGAVNSQGALPGMVWQNRDVYL							
hu. 39-E	550	A--GKDNVDYS-NVMLTSEEEIKTTNPVATEQYGVADNLQQQNTAPIVGAVNSQGALPGMVWQNRDVYL							
rh. 53-E	550	A--GKDNVDYS-NVMLTSEEEIKTTNPVATEQYGVADNLQQQNTAPIVGAVNSQGALPGMVWQNRDVYL							
hu. 37-E	550	A--GRDNVDYS-SVMLTSEEEIKTTNPVATEQYGVADNLQQQNTGPIVGNVNSQGALPGMVWQNRDVYL							
rh. 43-E	548	A--ARDNADYS-DVMLTSEEEIKTTNPVATEEYGIADNLQQQNTAPIGTVNSQGALPGMVWQNRDVYL							
rh. 50-E	550	A--GKDNVDYS-NVMLTSEEEIKTTNPVATEQYGVADNLQQQNTAPIVGAVNSQGALPGMVWQNRDVYL							
rh. 49-E	550	A--GKDNMGYS-NVMLTSEEEIKTTNPVATEQYGVADNLQQQNTAPIVGAVNSQGALPGMVWQNRDVYL							
rh. 61-E	550	A--GKDNVDYS-NVMLTSEEEIKTTNPVATEQYGVADNLQQQNTAPIVGAVNSQGALPGMVWQNRDVYL							
hu. 41-E	550	A--GRDNVDYS-SVMLTSEEEIKTTNPVATEQYGVADNLQQQNTGPIVGNVNSQGALPGMVWQNRDVYL							
rh. 64-E	550	A--GKDNVDYS-NVMLTSEEEIKTTNPVATEQYGVADNLQQQNTAPIVGAVNSQGALPGMVWQNRDVYL							
hu. 42-E	550	A--GRDNVDYS-SVMLTSEEEIKTTNPVATEQYGVADNLQQQNTGPIVGNVNSQGALPGMVWQNRDVYL							
rh. 57-E	550	A--GKDNVDYS-NVMLTSEEEIKTTNPVATEQYGVADNLQQQNTAPIVGAVNSQGALPGMVWQNRDVYL							
hu. 40-E	550	A--GRDNVDYS-SVMLTSEEEIKTTNPVATEQYGVADNLQQQNTGPIVGNVNSQGALPGMVWQNRDVYL							
AAV8-E	550	A--ARDNADYS-DVMLTSEEEIKTTNPVATEEYGIADNLQQQNTAPIGTVNSQGALPGMVWQNRDVYL							
rh. 58-E	550	A--GKDNVDYS-NVMLTSEEEIKTTNPVATEQYGVADNLQQQNTAPIVGAVNSQGALPGMVWQNRDVYL							
rh. 40-E	550	A--GRDNVDYS-SVMLTSEEEIKTTNPVATEQYGVADNLQQQNTGPIVGNVNSQGALPGMVWQNRDVYL							
hu. 67-E	550	A--GRDNVDYS-SVMLTSEEEIKTTNPVATEQYGVADNLQQQNTGPIVGNVNSQGALPGMVWQNRDVYL							
hu. 17-E	550	A--GKDNVDYS-SVMLTSEEEIKTTNPVATEQYGVADNLQQQNTAPIVGAVNSQGALPGMVWQNRDVYL							
hu. 6-E	550	A--GKDNVDYS-SVMLTSEEEIKTTNPVATEQYGVADNLQQQNTAPIVGAVNSQGALPGMVWQNRDVYL							
hu. 66-E	550	A--GRDNVDYS-SVMLTSEEEIKTTNPVATEQYGVADNLQQQNTGPIVGNVNSQGALPGMVWQNRDVYL							
rh. 38-E	550	A--GRDNVDYS-SVMLTSEEEIKTTNPVATEQYGVADNLQQQNTGPIVGNVNSQGALPGMVWQNRDVYL							
hu. 32-F	548	T--GRDNVDAD-KVMITNEEEIKTTNPVATESYGVATNHQSAQAQAQTGWVQNGILPGMVWQDRDVYL							
AAV9/hu	548	T--GRDNVDAD-KVMITNEEEIKTTNPVATESYGVATNHQSAQAQAQTGWVQNGILPGMVWQDRDVYL							
hu. 31-F	548	T--GRDNVDAD-KVMITNEEEIKTTNPVATESYGVATNHQSAQAQAQTGWVQNGILPGMVWQDRDVYL							

AAV5	604	QGPIWAKIPETGAHFHSPAMGGFGLKHPPPMMLIKNTVPVPGN-ITSFSDVPVSSFITQYSTGQVTVEME
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AAV3-3 615 QGPIWAKIPHTDGHFHPSPMLMGFGGLKHPPPPQIMIKNTVPANPPTTFSPAKFASFITQYSTGQVSVEIE
 AAV4-4 613 QGPIWAKIPHTDGHFHPSPPLIGFGGLKHPPPPQIFIKNTVPANPATTFSSTPVNSFITQYSTGQVSQID
 AAV1-A 615 QGPIWAKIPHTDGHFHPSPMLMGFGGLKNPPPPQILIKNTVPANPPAEFSATKFAFITQYSTGQVSVEIE
 hu.46-A 615 QGPIWAKIPHTDGHFHPSPMLMGFGGLKNPPPPQILIKNTVPANPPAEFSATKFAFITQYSAGQVSVEIE
 hu.48-A 615 QGPIWAKIPHTDGHFHPSPMLMGFGGLKNPPPPQILIKNTVPANPPAEFSATKFAFITQYSTGQVSVEIE
 hu.44-A 615 QGPIWAKIPHTDGHFHPSPMLMGFGGLKNPPPPQILIKNTVPANPPAEFSATKFAFITQYSTGQVSVEIE
 hu.43-A 616 QGPIWAKIPHTDGHFHPSPMLMGFGGLKNPPPPQILIKNTVPANPPAEFSATKFAFITQYSTGQVSVEIE
 AAV6-A 615 QGPIWAKIPHTDGHFHPSPMLMGFGGLKHPPPPQILIKNTVPANPPAEFSATKFAFITQYSTGQVSVEIE
 hu.34-B 614 QGPIWAKIPHTDGHFHPSPMLMGFGGLKHPPPPQILIKNTVPANPSTTFSAKFAFITQYSTGQVSVEIE
 hu.47-B 614 QGPIWAKIPHTDGHFHPSPMLMGFGGLKHPPPPQILIKNTVPANPSTTFSAKFAFITQYSTGQVSVEIE
 hu.29-B 614 QGPIWAKIPHTDGHFHPSPMLMGFGGLKHPPPPQILIKNTVPANPSTTFSAKFAFITQYSTGQVSVEIE
 hu.63-B 614 QGPIWAKIPHTDGHFHPSPMLMGFGGLKHPPPPQILIKNTVPANPSTTFSAKFAFITQYSTGQVSVEIE
 hu.56-B 614 QGPIWAKIPHTDGHFHPSPMLMGFGGLKHPPPPQILIKNTVPANPSTTFSAKFAFITQYSTGQVSVEIE
 hu.45-B 614 QGPIWAKIPHTDGHFHPSPMLMGFGGLKHPPPPQILIKNTVPANPSTTFSAKFAFITQYSTGQVSVEIE
 hu.57-B 613 QGPIWAKIPHTDGHFHPSPMLMGFGGLKHPPPPQILIKNTVPANPSTTFSAKFAFITQYSTGQVSVEIE
 hu.35-B 614 QGPIWAKIPHTDGHFHPSPMLMGFGGLKHPPPPQILIKNTVPANPSTTFSAKFAFITQYSTGQVSVEIE
 hu.58-B 614 QGPIWAKIPHTDGHFHPSPMLMGFGGLKHPPPPQILIKNTVPANPSTTFSAKFAFITQYSTGRVSVEIE
 hu.28-B 614 QGPIWAKIPHTDGHFHPSPMLMGFGGLKHPPPPQILIKNTVPANPSTTFSAKFAFITQYSTGQVSVEIE
 hu.51-B 614 QGPIWAKIPHTDGHFHPSPMLMGFGGLKHPPPPQILIKNTVPANPSTTFSAKFAFITQYSTGQVSVEIE
 hu.19-B 614 QGPIWAKIPHTDGHFHPSPMLMGFGGLKHPPPPQILIKNTVPANPSTTFSAKFAFITQYSTGQVSVEIE
 hu.49-B 614 QGPIWAKIPHTDGHFHPSPMLMGFGGLKHPPPPQILIKNTVPANPSTTFSAKFAFITQYSTGQVSVEIE
 hu.52-B 614 QGPIWAKIPHTDGHFHPSPMLMGFGGLKHPPPPQILIKNTVPANPSTTFSAKFAFITQYSTGQVSVEIE
 hu.13-B 614 QGPIWAKIPHTDGHFHPSPMLMGFGGLKHPPPPQILIKNTVPANPSTTFSAKFAFITQYSTGQVSVEIE
 AAV2-B 614 QGPIWAKIPHTDGHFHPSPMLMGFGGLKHPPPPQILIKNTVPANPSTTFSAKFAFITQYSTGQVSVEIE
 hu.20-B 614 QGPIWAKIPHTDGHFHPSPMLMGFGGLKHPPPPQILIKNTVPANPSTTFSAKFAFITQYSTGQVSVEIE
 hu.24-B 614 QGPIWAKIPHTDGHFHPSPMLMGFGGLKHPPPPQILIKNTVPANPSTTFSAKFAFITQYSTGQVSVEIE
 hu.64-B 614 QGPIWAKIPHTDGHFHPSPMLMGFGGLKHPPPPQILIKNTVPANPSTTFSAKFAFITQYSTGQVSVEIE
 hu.27-B 614 QGPIWAKIPHTDGHFHPSPMLMGFGGLKHPPPPQILIKNTVPANPSTTFSAKFAFITQYSTGQVSVEIE
 hu.21-B 614 QGPIWAKIPHTDGHFHPSPMLMGFGGLKHPPPPQILIKNTVPANPSTTFSAKFAFITQYSTGQVSVEIE
 hu.22-B 614 QGPIWAKIPHTDGHFHPSPMLMGFGGLKHPPPPQILIKNTVPANPSTTFSAKFAFITQYSTGQVSVEIE

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hu.23-B 614 RGPIWAKIPHTDGHFHPSPMLGGFGLKHPPPPQILIKNTPVPANPSTTSSAAKFASFITQYSTGQVSVEIE
 hu.7-C 614 QGPIWAKIPHTDGHFHPSPMLGGFGLKHPPPPQIMIKNTPVPANPPTNFSSAKFASFITQYSTGQVSVEIE
 hu.61-C 614 QGPIWAKIPHTDGHFHPSPVLGGFGLKHPPPPQIMIKNTPVPANPPTNFSSAKFASFITQYSTGQVSVEIE
 rh.56-C 614 QGPIWAKIPHTDGHFHPSPMLGGFGLKHPPPPQIMIKNTPVPANPPTNFSSAKFASFITQYSTGQVSVEIE
 hu.9-C 614 QGPIWAKIPHTDGHFHPSPMLGGFGLKHPPPPQIMIKNTPVPANPPTNFSSAKFASFITQYSTGQVSVEIE
 hu.54-C 613 RGPIWAKIPHADGHFHPSPMLGGFGLKHPPPPQIMIKNTPVPANPPTNFSSAKFASFITQYSTGQVSVEIE
 hu.53-C 613 QGPIWAKIPHTDGHFHPSPMLGGFGLKHPPPPQIMIKNTPVPANPPTNFSSAKFASFITQYSTGQVSVEIE
 hu.60-C 614 QGPIWAKIPHTDGHFHPSPMLGGFGLKHPPPPQIMIKNTPVPANPPTNFSSAKFASFITQYSTGQVSVEIE
 hu.55-C 613 QGPIWAKIPHTDGHFHPSPMLGGFGLKHPPPPQIMIKNTPVPANPPTNFSSAKFASFITQYSTGQVSVEIE
 hu.2-C 614 QGPIWAKIPHTDGHFHPSPMLGGFGLKHPPPPQIMIKNTPVPANPPTNFSSAKFASFITQYSTGQVSVEIE
 hu.1-C 614 QGPIWAKIPHTDGHFHPSPMLGGFGLKHPPPPQIMIKNTPVPANPPTNFSSAKFASFITQYSTGQVSVEIE
 hu.18-C 614 QGPIWAKIPHTDGHFHPSPMLGGFGLKHPPPPQIMIKNTPVPANPPTNFSSAKFASFITQYSTGQVSVEIE
 hu.3-C 615 QGPIWAKIPHTDGHFHPSPMLGGFGLKHPPPPQIMIKSTVPANPPTNFSSAKFASFITQYSTGQVSVEIE
 hu.25-C 614 QGPIWAKIPHTDGHFHPSPMLGGFGLKHPPPPQIMIKNTPVPANPPTNFSSAKFASFITQYSTGQVSVEIE
 hu.15-C 614 QGPIWAKIPHTDGHFHPSPMLGGFGLKHPPPPQIMIKNTPVPANPPTNFSSAKFASFITQYSTGQVSVEIE
 hu.16-C 614 QGPIWAKIPHTDGHFHPSPMLGGFGLKHPPPPQIMIKNTPVPANPPTNFSSAKFASFITQYSTGQVSVEIE
 hu.11-C 614 QGPIWAKIPHTDGHFHPSPMLGGFGLKHPPPPQIMIKNTPVPANPPTNFSSAKFASFITQYSTGQVSVEIE
 hu.10-C 614 QGPIWAKIPHTDGHFHPSPMLGGFGLKHPPPPQIMIKNTPVPANPPTNYSSAKFASFITQYSTGQVSVEIE
 hu.4-C 614 QGPIWAKIPHTDGHFHPSPMLGGFGLKHPPPPQIMIKNTPVPANPPTNFSSAKFASFITQYSTGQVSVEIE
 rh.54-D 616 QGPIWAKIPHTDGNFHPSPMLGGFGLKHPPPPQILIKNTPVPANPPEVFTPAKFASFITQYSTGQVSVEIE
 rh.48-D 616 QGPIWAKIPHTDGNFHPSPMLGGFGLKHPPPPQILIKNTPVPANPPEVFTPAKFASFITQYSTGQVSVEIE
 rh.55-D 616 QGPIWAKIPHTDGNFHPSPMLGGFGLKHPPPPQILIKNTPVPANPPEVFTPAKFASFITQYSTGQVSVEIE
 rh.62-D 616 QGPIWAKIPHTDGNFHPSPMLGGFGLKHPPPPQILIKNTPVPANPPEVFTPAKFASFITQYSTGQVSVEIE
 AAV7-D 616 QGPIWAKIPHTDGNFHPSPMLGGFGLKHPPPPQILIKNTPVPANPPEVFTPAKFASFITQYSTGQVSVEIE
 rh.52-E 617 QGPIWAKIPHTDGNFHPSPMLGGFGLKHPPPPQILIKNTPVPADPPTAFNQAKLNSFITQYSTGQVSVEIE
 rh.51-E 617 QGPIWAKIPHTDGNFHPSPMLGGFGLKHPPPPQILIKNTPVPADPPTAFNQAKLNSFITQYSTGQVSVEIE
 hu.39-E 617 QGPIWAKIPHTDGNFHPSPMLGGFGLKHPPPPQILIKNTPVPADPPTAFNQAKLNSFITQYSTGQVSVEIE
 rh.53-E 617 QGPIWAKIPHTDGNFHPSPMLGGFGLKHPPPPQILIKNTPVPADPPTAFNQAKLNSFITQYSTGQVSVEIE
 hu.37-E 617 QGPIWAKIPHTDGNFHPSPMLGGFGLKHPPPPQILIKNTPVPADPPTTFSQAKLASFITQYSTGQVSVEIE
 rh.43-E 615 QGPIWAKIPHTDGNFHPSPMLGGFGLKHPPPPQILIKNTPVPADPPTTFSQAKLASFITQYSTGQVSVEIE

FIG. 2AA

[illegible]

FIG. 2AB

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AAV6-A 685 WELQENSKRWNPVQYTSNYAKSANVDFTVDNNGLYTEPRPIGTRYLTRPL*
hu.34-B 684 WELQENSKRWNPVQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
hu.47-B 684 WELQENSKRWNPVQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
hu.29-B 684 WELQENSKRWNPVQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
hu.63-B 684 WELQENSKRWNPVQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
hu.56-B 684 WELQENSKRWNPVQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
hu.45-B 684 WELQENSKRWNPVQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
hu.57-B 683 WELQENSKRWNPVQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
hu.35-B 684 WELQENSKRWNPVQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
hu.58-B 684 WELQENSKRWNPVQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
hu.28-B 684 WELQENSKRWNPVQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
hu.51-B 684 WELQENSKRWNPVQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
hu.19-B 684 WELQENSKRWNPVQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
hu.49-B 684 WELQENSKRWNPVQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
hu.52-B 684 WELQENSKRWNPVQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
hu.13-B 684 WELQENSKRWNPVQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
AAV2-B 684 WELQENSKRWNPVQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
hu.20-B 684 WELQENSKRWNPVQYTSNYNKSXNVDFTVDTNGVYSEPRPIGARYLTRNL*
hu.24-B 684 WELQENSKRWNPVQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
hu.64-B 684 WELQENSKRWNPVQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
hu.27-B 684 WELQENSKRWNPVQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
hu.21-B 684 WELQENSKRWNPVQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
hu.22-B 684 WELQENSKRWNPVQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
hu.23-B 684 WELQENSKRWNPVQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
hu.7-C 684 WELQENSKRWNPVQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
hu.61-C 684 WELQENSKRWNPVQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
rh.56-C 684 WELQENSKRWNPVQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
hu.9-C 684 WELQENSKRWNPVQYTSNYNKSXNVDFTVDTNGVYSEPCPIGTRYLTRNL*
hu.54-C 683 WELQENSKRWNPVQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
hu.53-C 683 WELQENSKRWNPVQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*

FIG. 2AC

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hu. 60-C 684 WELQENSKRWNPEIQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
hu. 55-C 683 WELQENSKRWNPEIQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
hu. 2-C 684 WELQENSKRWNPEIQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
hu. 1-C 684 WELQENSKRWNPEIQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
hu. 18-C 684 WELQENSKRWNPEIQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
hu. 3-C 685 WELQENSKRWNPEIQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
hu. 25-C 684 WELQENSKRWNPEIQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
hu. 15-C 684 WELQEDSKRWNPEIQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
hu. 16-C 684 WELQENSKRWNPEIQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
hu. 11-C 684 WELQENSKRWNPEIQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
hu. 10-C 684 WELQENSKRWNPEIQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
hu. 4-C 684 WELQENSKRWNPEIQYTSNYNKSXNVDFTVDTNGVYSEPRPIGTRYLTRNL*
rh. 54-D 686 WELQENSKRWNPEIQYTSNFDKQGTGVDFAVDSQGVYSEPRPIGTRYLTRNL*
rh. 48-D 686 WELQENSKRWNPEIQYTSNFDKQGTGVDFAVDSQGVYSEPRPIGTRYLTRNL*
rh. 55-D 686 WELQENSKRWNPEIQYTSNFDKQGTGVDFAVDSQGVYSEPRPIGTRYLTRNL*
rh. 62-D 686 WELQENSKRWNPEIQYTSNFDKQGTGVDFAVDSQGVYSEPRPIGTRYLTRNL*
AAV7-D 686 WELQENSKRWNPEIQYTSNFEKQGTGVDFAVDSQGVYSEPRPIGTRYLTRNL*
rh. 52-E 687 WELQENSKRWNPEIQYTSNYKSTNVDFAVNTEGVYSEPRPIGTRYLTRNL*
rh. 51-E 687 WEPQENSKRWNPEIQYTSNYKSTNVDFAVNTEGVYSEPRPIGTRYLTRNL*
hu. 39-E 687 WELQENSKRWNPEIQYTSNYKSTNADFVAVNTEGVYSEPRPIGTRYLTRNL*
rh. 53-E 687 WELQENSKRWNPEIQYTSNYKSTNVDFAVNTEGVYSEPRPIGTRYLTRNL*
hu. 37-E 687 WELQENSKRWNPEIQYTSNYKSTNVDFAVNTEGVYSEPRPIGTRYLTRNL*
rh. 43-E 685 WELQENSKRWNPEIQYTSNYKSTSVDFAVNTEGVYSEPRPIGTRYLTRNL*
rh. 50-E 687 WELQENSKRWSPEIQYTSNYKSTNVDFAVNTEGVYSEPRPIGTRYLTRNL*
rh. 49-E 687 WELQENSKRWNPEIQYTSNYKSTNVDFAVNTEGVYSEPRPIGTRYLTRNL*
rh. 61-E 687 WELQENSKRWNPEIQYTSNYKSTNVDFAVNTEGVYSEPRPIGTRYLTRNL*
hu. 41-E 687 WELQENSKRWNPEIQYTSNYKSTNVDFAVNTEGVYSEPRPIGTRYLTRNL*
rh. 64-E 687 WELQENSKRRNPEIQYTSNYKSTNVDFAVNTEGVYSEPRPIGTRYLTRNL*
hu. 42-E 687 WELQENSKRWNPEIQYTSNYKSTNVDFAVNTEGVYSEPRPIGTRYLTRNL*
rh. 57-E 687 WELQENSKRWNPEIQYTSNYKSTNVDFAVNTEGVYSEPRPIGTRYLTRNL*

FIG. 2AD

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hu. 40-E	687	WELQKENS	KRWNPEI	QYTSNYYK	STNVDF	AVNTEG	TYSEPR	PIGTRYL	TRNL*
AAV8-E	687	WELQKENS	KRWNPEI	QYTSNYYK	STSVDF	AVNTEG	VYSEPR	PIGTRYL	TRNL*
rh. 58-E	687	WELQKENS	KCWNPEI	QYTSNYYK	STNVDF	AVNTEG	VYSEPR	PIGTRYL	TRNL*
rh. 40-E	687	WELQKENS	KRWNPEI	QYTSNYYK	STNVDF	AVNTEG	VYSEPR	PIGTRYL	TRNL*
hu. 67-E	687	WELQKENS	KRWNPEI	QYTSNYYK	STNVDF	AVNTEG	VYSEPR	PIGTRYL	TRNL*
hu. 17-E	687	WELQKENS	KRWNPEI	QYTSNYYK	STNVDF	AVNTEG	VYSEPR	PIGTRYL	TRNL*
hu. 6-E	687	WELQKENS	KRWNPEI	QYTSNYYK	STNVDF	TVDTNG	VYSEPR	PIGTRYL	TRNL*
hu. 66-E	687	WELQKENS	KRWNPEI	QYTSNYYK	STNVDF	AVNTEG	VYSEPR	PIGTRYL	TRNL*
rh. 38-E	687	WELQKENS	KRWNPEI	QYTSNYYK	STNVDF	AVNTEG	VYSEPR	PIGTRYL	TRNL*
hu. 32-F	685	WELQKENS	KRWNPEI	QYTSNYYK	SNNVEF	AVNTEG	VYSEPR	PIGTRYL	TRNL*
AAV9/hu	685	WELQKENS	KRWNPEI	QYTSNYYK	SNNVEF	AVNTEG	VYSEPR	PIGTRYL	TRNL*
hu. 31-F	685	WELQKENS	KRWNPEI	QYTSNYYK	SNNVEF	AVSTEG	VYSEPR	PIGTRYL	TRNL*

FIG. 2AE

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		10	20	30	40	50	60	70
AAV5	1	ATGCTTTTGTGATCACCCCTCCAGATTGGTTGGAAGAA---GTTGGTGAAGGTCTTCGCGAGTTTGTGG					
AAV3-3	1							
AAV4-4	1							
AAV1-A	1							
hu.46-A	1							
hu.48-A	1							
hu.44-A	1							
hu.43-A	1							
AAV6-A	1							
hu.34-B	1							
hu.47-B	1							
hu.29-B	1							
hu.63-B	1							
hu.56-B	1							
hu.45-B	1							
hu.57-B	1							
hu.35-B	1							
hu.58-B	1							
hu.28-B	1							
hu.51-B	1							
hu.19-B	1							
hu.49-B	1							
hu.52-B	1							
hu.13-B	1							
AAV2-B	1							
hu.20-B	1							
hu.24-B	1							
hu.64-B	1							

FIG. 3A

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hu. 27-B 1 ATGGCTGCCGATGGTTATCTCCAGATTGGCTCGAGGACACTCTCTCTGAAGGAATAAGACAGTGGTGGA
 hu. 21-B 1 ATGGCTGCCGATGGTTATCTCCAGATTGGCTCGAGGACACCCCTCTCTGAAGGAATAAGACAGTGGTGGA
 hu. 22-B 1 ATGGCTGCCGATGGTTATCTCCAGATTGGCTCGAGGACACTCTCTCTGAAGGAATAAGACAGTGGTGGA
 hu. 23-B 1 ATGGCTGCCGATGGTTATCTCCAGATTGGCTCGAGGACACTCTCTCTGAAGGAATAAGACAGTGGTGGA
 hu. 7-C 1 ATGGCTGCCGATGGTTATCTCCAGATTGGCTCGAGGACACTCTCTCTGAAGGAATAAGACAGTGGTGGA
 hu. 61-C 1 ATGGCTGCCGATGGTTATCTCCAGATTGGCTCGAGGACACTCTCTCTGAAGGAATAAGACAGTGGTGGA
 rh. 56-C 1 ATGGCTGCCGATGGTTATCTCCAGATTGGCTCGAGGACACTCTCTCTGAAGGAATAAGACAGTGGTGGA
 hu. 9-C 1 ATGGCTGCCGATGGTTATCTCCAGATTGGCTCGAGGACACTCTCTCTGAAGGAATAAGACAGTGGTGGA
 hu. 54-C 1 ATGGCTGCCGATGGTTATCTCCAGATTGGCTCGAGGACACTCTCTCTGAAGGAATAAGACAGTGGTGGA
 hu. 53-C 1 ATGGCTGCCGATGGTTATCTCCAGATTGGCTCGAGGACACTCTCTCTGAAGGAATAAGACAGTGGTGGA
 hu. 60-C 1 ATGGCTGCCGATGGTTATCTCCAGATTGGCTCGAGGACACTCTCTCTGAAGGAATAAGACAGTGGTGGA
 hu. 55-C 1 ATGGCTGCCGATGGTTATCTCCAGATTGGCTCGAGGACACTCTCTCTGAAGGAATAAGACAGTGGTGGA
 hu. 2-C 1 ATGGCTGCCGATGGTTATCTCCAGATTGGCTCGAGGACACTCTCTCTGAAGGAATAAGACAGTGGTGGA
 hu. 1-C 1 ATGGCTGCCGATGGTTATCTCCAGATTGGCTCGAGGACACTCTCTCTGAAGGAATAAGACAGTGGTGGA
 hu. 18-C 1 ATGGCTGCCGATGGTTATCTCCAGATTGGCTCGAGGACACTCTCTCTGAAGGAATAAGACAGTGGTGGA
 hu. 3-C 1 ATGGCTGCCGATGGTTATCTCCAGATTGGCTCGAGGACACTCTCTCTGAAGGAATAAGACAGTGGTGGA
 hu. 25-C 1 ATGGCTGCCGATGGTTATCTCCAGATTGGCTCGAGGACACTCTCTCTGAAGGAATAAGACAGTGGTGGA
 hu. 15-C 1 ATGGCTGCCGATGGTTATCTCCAGATTGGCTCGAGGACACTCTCTCTGAAGGAATAAGACAGTGGTGGA
 hu. 16-C 1 ATGGCTGCCGATGGTTATCTCCAGATTGGCTCGAGGACACTCTCTCTGAAGGAATAAGACAGTGGTGGA
 hu. 11-C 1 ATGGCTGCCGATGGTTATCTCCAGATTGGCTCGAGGACACTCTCTCTGAAGGAATAAGACAGTGGTGGA
 hu. 10-C 1 ATGGCTGCCGATGGTTATCTCCAGATTGGCTCGAGGACACTCTCTCTGAAGGAATAAGACAGTGGTGGA
 hu. 4-C 1 ATGGCTGCCGATGGTTATCTCCAGATTGGCTCGAGGACACTCTCTCTGAAGGAATAAGACAGTGGTGGA
 rh. 54-D 1 ATGGCTGCTGACCGTTATCTCCAGATTGGCTCGAGGACAACCTCTCTGAGGGCATTCGCGAGTGGTGGG
 rh. 48-D 1 ATGGCTGCTGACCGTTATCTCCAGATTGGCTCGAGGACAACCTCTCTGAGGGCATTCGCGAGTGGTGGG
 rh. 55-D 1 ATGGCTGCCGATGGTTATCTCCAGATTGGCTCGAGGACAACCTCTCTGAGGGCATTCGCGAGTGGTGGG
 rh. 62-D 1 ATGGCTGCTGACCGTTATCTCCAGATTGGCTCGAGGACAACCTCTCTGAGGGCATTCGCGAGTGGTGGG
 AAV7-D 1 ATGGCTGCCGATGGTTATCTCCAGATTGGCTCGAGGACAACCTCTCTGAGGGCATTCGCGAGTGGTGGG
 rh. 52-E 1 ATGGCTGCCGATGGTTATCTCCAGATTGGCTCGAGGACAACCTCTCTGAGGGCATTCGCGAGTGGTGGG
 rh. 51-E 1 ATGGTTGCCGATGGTTATCTCCAGATTGGCTCGAGGACAACCTCTCTGAGGGCATTCGCGAGTGGTGGG
 hu. 39-E 1 ATGGCTGCCGATGGTTATCTCCAGATTGGCTCGAGGACAACCTCTCTGAGGGCATTCGCGAGTGGTGGG

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rh. 53-E	1	ATGGCTGCCGATGGTTATCTTCCAGATTGGCTCGAGGACAAACCTCTCTGAGGGCATTCGCGAGTGGTGGG	80	90	100	110	120	130	140
hu. 37-E	1	ATGGCTGCTGACGGTTATCTTCCAGATTGGCTCGAGGACAAACCTCTCTGAGGGCATTCGCGAGTGGTGGG						
rh. 43-E	1	ATGGCTGCCGATGGTTATCTTCCAGATTGGCTCGAGGACAAACCTCTCTGAGGGCATTCGCGAGTGGTGGG							
rh. 50-E	1	ATGGCTGCCGATGGTTATCTTCCAGATTGGCTCGAGGACAAACCTCTCTGAGGGCATTCGCGAGTGGTGGG							
rh. 49-E	1	ATGGCTGCCGATGGTTATCTTCCAGATTGGCTCGAGGACAAACCTCTCTGAGGGCATTCGCGAGTGGTGGG							
rh. 61-E	1	ATGGCTGCCGATGGTTATCTTCCAGATTGGCTCGAGGACAAACCTCTCTGAGGGCATTCGCGAGTGGTGGG							
hu. 41-E	1	ATGGCTGCTGACGGTTATCTTCCAGATTGGCTCGAGGACAAACCTCTCTGAGGGCATTCGCGAGTGGTGGG							
rh. 64-E	1	ATGGCTGCCGATGGTTATCTTCCAGATTGGCTCGAGGACAAACCTCTCTGAGGGCATTCGCGAGTGGTGGG							
hu. 42-E	1	ATGGCTGCTGACGGTTATCTTCCAGATTGGCTCGAGGACAAACCTCTCTGAGGGCATTCGCGAGTGGTGGG							
rh. 57-E	1	ATGGCTGCCGATGGTTATCTTCCAGATTGGCTCGAGGACAAACCTCTCTGAGGGCATTCGCGAGTGGTGGG							
hu. 40-E	1	ATGGCTGCTGACGGTTATCTTCCAGATTGGCTCGAGGACAAACCTCTCTGAGGGCATTCGCGAGTGGTGGG							
AAV8-E	1	ATGGCTGCCGATGGTTATCTTCCAGATTGGCTCGAGGACAAACCTCTCTGAGGGCATTCGCGAGTGGTGGG							
rh. 58-E	1	ATGGCTGCTGACGGTTATCTTCCAGATTGGCTCGAGGACAAACCTCTCTGAGGGCATTCGCGAGTGGTGGG							
rh. 40-E	1	ATGGCTGCTGACGGTTATCTTCCAGATTGGCTCGAGGACAAACCTCTCTGAGGGCATTCGCGAGTGGTGGG							
hu. 67-E	1	ATGGCTGCTGACGGTTATCTTCCAGATTGGCTCGAGGACAAACCTCTCTGAGGGCATTCGCGAGTGGTGGG							
hu. 17-E	1	ATGGCTGCCGATGGTTATCTTCCAGATTGGCTCGAGGACAAACCTCTCTGAGGGCATTCGCGAGTGGTGGG							
hu. 6-E	1	ATGGCTGCCGATGGTTATCTTCCAGATTGGCTCGAGGACAAACCTCTCTGAGGGCATTCGCGAGTGGTGGG							
hu. 66-E	1	ATGGCTGCTGACGGTTATCTTCCAGATTGGCTCGAGGACAAACCTCTCTGAGGGCATTCGCGAGTGGTGGG							
rh. 38-E	1	ATGGCTGCTGACGGTTATCTTCCAGATTGGCTCGAGGACAAACCTCTCTGAGGGCATTCGCGAGTGGTGGG							
hu. 32-F	1	ATGGCTGCCGATGGTTATCTTCCAGATTGGCTCGAGGACAACTCTCTCTGAAGGAATAAGACACAGTGGTGGGA							
AAV9/hu	1	ATGGCTGCCGATGGTTATCTTCCAGATTGGCTCGAGGACAAACCTTAGTGAAGGAATTCGCGAGTGGTGGG							
hu. 31-F	1	ATGGCTGCCGATGGTTATCTTCCAGATTGGCTCGAGGACAACTCTCTCTGAAGGAATAAGACACAGTGGTGGGA							
AAV5	68							
AAV3-3	71	GCCTTGAAGCGGGCCACCGAAACCAAAACCCAAATCAGCAGCATCAAGATCAAGCCCCGTGGTCTTTGTGCT							
AAV4-4	68	CTCTGAAACCTGGAGTCCCTCAACCCAAAGCGAAACCAACACACAGGACAACCGTCGGGGTCTTTGTGCT							
AAV1-A	71	CGCTGCAACCTGGAGCCCCCTAAACCCAAAGGCAATCAACAACATCAGGACAACGCTCGGGGTCTTTGTGCT							
hu. 46-A	71	AGCTCAAAACCTGGCCCCACCAACCAAGCCCCCGACAGCGGCATTAAGGACGACAGCAGGGGTCTTTGTGCT							

hu. 48-A	71	ACTTGAAACCTGGAGCCCCGGAAGCCCCAAAGCCAAACACAGCAAAAGCAGACGACGGCCCGGGTCTTGGTGCT
hu. 44-A	71	AGCTCAGACCTGGCCCCACCAACCAACAAAGCCCGCAGAGCGGCATAAGGACGACAGCAGGGGTCTTGTGCT
hu. 43-A	71	ACCTGAAACCTGGAGCCCCCAAGCCCAAGCCCAACCAAGCAGAGCAGAGCAGCGCCCGGGTCTTGGTGCT
AAV6-A	71	ACTTGAAACCTGGAGCCCCGGAACCCAAAGCCAAACCAAGCAGCAAAAGCAGACGACGGCCCGGGTCTTGGTGCT
hu. 34-B	71	AGTCAAAACCTGGCCCCACCAACCAAGCCCGCAGAGCGGCATAAGGACGACAGCAGGGGTCTTGTGCT
hu. 47-B	71	AGTCAAAACCTGGCCCCACCAACCAAGCCCGCAGAGCGGCATAAGGACGACAGCAGGGGTCTTGTGCT
hu. 29-B	71	AGTCAAAACCTGGCCCCACCAACCAAGCCCGCAGAGCGGCATAAGGACGACAGCAGGGGTCTTGTGCT
hu. 63-B	71	AGTCAAAACCTGGCCCCACCAACCAAGCCCGCAGAGCGGCATAAGGACGACAGCAGGGGTCTTGTGCT
hu. 56-B	71	AGTCAAAACCTGGCCCCACCAACCAAGCCCGCAGAGCGGCATAAGGACGACAGCAGGGGTCTTGTGCT
hu. 45-B	71	AGTCAAAACCTGGCCCCACCAACCAAGCCCGCAGAGCGGCATAAGGACGACAGCAGGGGTCTTGTGCT
hu. 57-B	71	AGTCAAAACCTGGCCCCACCAACCAAGCCCGCAGAGCGGCATAAGGACGACAGCAGGGGTCTTGTGCT
hu. 35-B	71	AGTCAAAACCTGGCCCCACCAACCAAGCCCGCAGAGCGGCATAAGGACGACAGCAGGGGTCTTGTGCT
hu. 58-B	71	AGTCAAAACCTGGCCCCACCAACCAAGCCCGCAGAGCGGCATAAGGACGACAGCAGGGGTCTTGTGCT
hu. 28-B	71	AACTCAAAACCTGGCCCCACCAACCAAGCCCGCAGAGCGGCATAAGGACGACAGCAGGGGTCTTGTGCT
hu. 51-B	71	AGTCAAAACCTGGCCCCACCAACCAAGCCCGCAGAGCGGCATAAGGACGACAGCAGGGGTCTTGTGCT
hu. 19-B	71	AGTCAAAACCTGGCCCCACCAACCAAGCCCGCAGAGCGGCATAAGGACGACAGCAGGGGTCTTGTGCT
hu. 49-B	71	AGTCAAAACCTGGCCCCACCAACCAAGCCCGCAGAGCGGCATAAGGACGACAGCAGGGGTCTTGTGCT
hu. 52-B	71	AGTCAAAACCTGGCCCCACCAACCAAGCCCGCAGAGCGGCATAAGGACGACAGCAGGGGTCTTGTGCT
hu. 13-B	71	AGTCAAAACCTGGCCCCACCAACCAAGCCCGCAGAGCGGCATAAGGACGACAGCAGGGGTCTTGTGCT
AAV2-B	71	AGTCAAAACCTGGCCCCACCAACCAAGCCCGCAGAGCGGCATAAGGACGACAGCAGGGGTCTTGTGCT
hu. 20-B	71	AGTCAAAACCTGGCCCCACCAACCAAGCCCGCAGAGCGGCATAAGGACGACAGCAGGGGTCTTGTGCT
hu. 24-B	71	AGTCAAAACCTGGCCCCACCAACCAAGCCCGCAGAGCGGCATAAGGACGACAGCAGGGGTCTTGTGCT
hu. 64-B	71	AGTCAAAACCTGGCCCCACCAACCAAGCCCGCAGAGCGGCATAAGGACGACAGCAGGGGTCTTGTGCT
hu. 27-B	71	AGTCAAAACCTGGCCCCACCAACCAAGCCCGCAGAGCGGCATAAGGACGACAGCAGGGGTCTTGTGCT
hu. 21-B	71	AGTCAAAACCTGGCCCCACCAACCAAGCCCGCAGAGCGGCATAAGGACGACAGCAGGGGTCTTGTGCT
hu. 22-B	71	AGTCAAAACCTGGCCCCACCAACCAAGCCCGCAGAGCGGCATAAGGACGACAGCAGGGGTCTTGTGCT
hu. 23-B	71	AGTCAAAACCTGGCCCCACCAACCAAGCCCGCAGAGCGGCATAAGGACGACAGCAGGGGTCTTGTGCT
hu. 7-C	71	AGTCAAAACCTGGCCCCACCAACCAAGCCCGCAGAGCGGCATAAGGACGACAGCAGGGGTCTTGTGCT
hu. 61-C	71	AGTCAAAACCTGGCCCCACCAACCAAGCCCGCAGAGCGGCATAAGGACGACAGCAGGGGTCTTGTGCT
rh. 56-C	71	AGTCAAAACCTGGCCCCACCAACCAAGCCCGCAGAGCGGCATAAGGACGACAGCAGGGGTCTTGTGCT

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hu. 9-C	71	AGTCAAACCTGGCCCCACCAACCAAGCCCCGAGAGCGGGCATCAGGACAAACAGCAGGGGCTCTTGTGCT
hu. 54-C	71	AGTCAAACCTGGCCCCACCAACCAAGCCCCGAGAGCGGGCATAAAGACGACAGCAGGGGCTCTTGTGCT
hu. 53-C	71	AGTCAAACCTGGCCCCACCAACCAAGCCCCGAGAGCGGGCATAAAGACGACAGCAGGGGCTCTTGTGCT
hu. 60-C	71	AGTCAAACCTGGCCCCACCAACCAAGCCCCGAGAGCGGGCATAAAGACGACAGCAGGGGCTCTTGTGCT
hu. 55-C	71	AGTCAAACCTGGCCCCACCAACCAAGCCCCGAGAGCGGGCATAAAGACGACAGCAGGGGCTCTTGTGCT
hu. 2-C	71	AGTCAAACCTGGCCCCACCAACCAAGCCCCGAGAGCGGGCATAAAGACGACAGCAGGGGCTCTTGTGCT
hu. 1-C	71	AGTCAAACCTGGCCCCACCAACCAAGCCCCGAGAGCGGGCATAAAGACGACAGCAGGGGCTCTTGTGCT
hu. 18-C	71	AGTCAAACCTGGCCCCACCAACCAAGCCCCGAGAGCGGGCATAAAGACGACAGCAGGGGCTCTTGTGCT
hu. 3-C	71	AGTCAAACCTGGCCCCACCAACCAAGCCCCGAGAGCGGGCATAAAGACGACAGCAGGGGCTCTTGTGCT
hu. 25-C	71	AGTCAAACCTGGCCCCACCAACCAAGCCCCGAGAGCGGGCATAAAGACGACAGCAGGGGCTCTTGTGCT
hu. 15-C	71	AGTCAAACCTGGCCCCACCAACCAAGCCCCGAGAGCGGGCATAAAGACGACAGCAGGGGCTCTTGTGCT
hu. 16-C	71	AGTCAAACCTGGCCCCACCAACCAAGCCCCGAGAGCGGGCATAAAGACGACAGCAGGGGCTCTTGTGCT
hu. 11-C	71	AGTCAAACCTGGCCCCACCAACCAAGCCCCGAGAGCGGGCATAAAGACGACAGCAGGGGCTCTTGTGCT
hu. 10-C	71	AGTCAAACCTGGCCCCACCAACCAAGCCCCGAGAGCGGGCATAAAGACGACAGCAGGGGCTCTTGTGCT
hu. 4-C	71	AGTCAAACCTGGCCCCACCAACCAAGCCCCGAGAGCGGGCATAAAGACGACAGCAGGGGCTCTTGTGCT
rh. 54-D	71	ACCTGAAACCTGGAGCCCCGAAACCCAAAGCCAAACCAGCAGAAAGCAGGACGAGCGCCGGGCTCTGGTGCT
rh. 48-D	71	ACCTGAAACCTGGAGCCCCGAAACCCAAAGCCAAACCAGCAGAAAGCAGGACGAGCGCCGGGCTCTGGTGCT
rh. 55-D	71	ACCTGAAACCTGGAGCCCCGAAACCCAAAGCCAAACCAGCAGAAAGCAGGACGAGCGCCGGGCTCTGGTGCT
rh. 62-D	71	ACCTGAAACCTGGAGCCCCGAAACCCAAAGCCAAACCAGCAGAAAGCAGGACGAGCGCCGGGCTCTGGTGCT
AAV7-D	71	ACCTGAAACCTGGAGCCCCGAAACCCAAAGCCAAACCAGCAGAAAGCAGGACGAGCGCCGGGCTCTGGTGCT
rh. 52-E	71	ACCTGAAACCTGGAGCCCCGAAACCCAAAGCCAAACCAGCAGAAAGCAGGACGAGCGCCGGGCTCTGGTGCT
rh. 51-E	71	ACCTGAAACCTGGAGCCCCGAAACCCAAAGCCAAACCAGCAGAAAGCAGGACGAGCGCCGGGCTCTGGTGCT
hu. 39-E	71	ACCTGAAACCTGGAGCCCCGAAACCCAAAGCCAAACCAGCAGAAAGCAGGACGAGCGCCGGGCTCTGGTGCT
rh. 53-E	71	ACCTGAAACCTGGAGCCCCGAAACCCAAAGCCAAACCAGCAGAAAGCAGGACGAGCGCCGGGCTCTGGTGCT
hu. 37-E	71	ACCTGAAACCTGGAGCCCCGAAACCCAAAGCCAAACCAGCAGAAAGCAGGACGAGCGCCGGGCTCTGGTGCT
rh. 43-E	71	ACCTGAAACCTGGAGCCCCGAAACCCAAAGCCAAACCAGCAGAAAGCAGGACGAGCGCCGGGCTCTGGTGCT
rh. 50-E	71	ACCTGAAACCTGGAGCCCCGAAACCCAAAGCCAAACCAGCAGAAAGCAGGACGAGCGCCGGGCTCTGGTGCT
rh. 49-E	71	ACCTGAAACCTGGAGCCCCGAAACCCAAAGCCAAACCAGCAGAAAGCAGGACGAGCGCCGGGCTCTGGTGCT
rh. 61-E	71	ACCTGAAACCTGGAGCCCCGAAACCCAAAGCCAAACCAGCAGAAAGCAGGACGAGCGCCGGGCTCTGGTGCT
hu. 41-E	71	ACCTGAAACCTGGAGCCCCGAAACCCAAAGCCAAACCAGCAGAAAGCAGGACGAGCGCCGGGCTCTGGTGCT

FIG. 3E

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rh. 64-E	71	ACCTGAAACCTGGAGCCCCGAAACCCAAAGCCAAACCAGCAAAAGCAGGACGACGGCCGGGGTCTGGTGCT	150
hu. 42-E	71	ACCTGAAACCTGGAGCCCCCAAGCCCCAAGCCAAACCAGCAGAAGCAGGACGACGGCCGGGGTCTGGTGCT	150
rh. 57-E	71	CGTGAAACCTGGAGCCCCGAAAGCCCCAAAGCCAAACCAGCAAAAGCAGGACGACGGCCGGGGTCTGGTGCT	150
hu. 40-E	71	ACCTGAAACCTGGAGCCCCCAAGCCCCAAGCCAAACCAGCAGAAGCAGGACGACGGCCGGGGTCTGGTGCT	150
AAV8-E	71	CGTGAAACCTGGAGCCCCGAAAGCCCCAAGCCAAACCAGCAGAAGCAGGACGACGGCCGGGGTCTGGTGCT	150
rh. 58-E	71	ACCTGAAACCTGGAGCCCCCAAGCCCCAAGCCAAACCAGCAGAAGCAGGACGACGGCCGGGGTCTGGTGCT	150
rh. 40-E	71	ACCTGAAACCTGGAGCCCCCAAGCCCCAAGCCAAACCAGCAGAAGCAGGACGACGGCCGGGGTCTGGTGCT	150
hu. 67-E	71	ACCTGAAACCTGGAGCCCCCAAGCCCCAAGCCAAACCAGCAGAAGCAGGACGACGGCCGGGGTCTGGTGCT	150
hu. 17-E	71	ACTTGAAACCTGGAGCCCCGAAACCCAAAGCCAAACCAGCAAAAGCAGGACGACGGCCGGGGTCTGGTGCT	150
hu. 6-E	71	ACTTGAAACCTGGAGCCCCGAAACCCAAAGCCAAACCAGCAAAAGCAGGACGACGGCCGGGGTCTGGTGCT	150
hu. 66-E	71	ACCTGAAACCTGGAGCCCCCAAGCCCCAAGCCAAACCAGCAGAAGCAGGACGACGGCCGGGGTCTGGTGCT	150
rh. 38-E	71	ACCTGAAACCTGGAGCCCCCAAGCCCCAAGCCAAACCAGCAGAAGCAGGACGACGGCCGGGGTCTGGTGCT	150
hu. 32-F	71	AGCTCAAACCTGGCCCCACCAACCAAGCCCAAGCCGAGAGCGGCAATAAGGACGACGAGCGGGTCTTGTGCT	150
AAV9/hu	71	CTTTGAAACCTGGAGCCCCCTCAACCCAAAGGCAATCAACAACATCAAGACAACGCTCGAGGCTCTTGTGCT	150
hu. 31-F	71	AGCTCAAACCTGGCCCCCACCAACCAAGCCCGCAGAGCGGCAATAAGGACGACGAGCGGGTCTTGTGCT	150
AAV5	138	150
AAV3-3	141	GCCTGGTTATACTATCTCGGACCCCGGAAACGGTCTCGATCGAGGAGAGCCTGTCAACAGGGCAGACGAG	150
AAV4-4	138	TCCGGGTTACAAATACCTCGGACCCCGGTAACGGACTCGACAAAGGAGAGCCGGTCAACAGGGCAGCGG	150
AAV1-A	141	TCCGGGTTACAAATACCTCGGACCCCGGCAACGGACTCGACAAAGGGGAAACCCGTCAACGAGCGGACGCG	150
hu. 46-A	141	TCCTGGCTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAAGGGGAGCCCGTCAACGCGGCGGACGCA	150
hu. 48-A	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAAGGGGAGCCCGTCAACGCGGCGGACGCA	150
hu. 44-A	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAAGGGGAGCCCGTCAACGCGGCGGACGCA	150
hu. 43-A	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAAGGGGAGCCCGTCAACGCGGCGGATGCA	150
AAV6-A	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAAGGGGAGCCCGTCAACGCGGCGGATGCA	150
hu. 34-B	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAAGGGGAGCCCGTCAACGAGGCAGACGCC	150
hu. 47-B	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAAGGGGAGCCCGTCAACGAGGCAGACGCC	150
hu. 29-B	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAAGGGGAGCCCGTCAACGAGGCAGACGCC	150

hu. 63-B	141	TCCTGGGTACAAGTACCTTGGACCCCTTCAACGGACTCGACAAGGGAGAGCCGGTCAACGAGGCAGACGCC
hu. 56-B	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCGGTCAACGAGGCAGACGCC
hu. 45-B	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCGGTCAACGAGGCAGACGCC
hu. 57-B	138	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCGGTCAACGAGGCAGACGCC
hu. 35-B	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCGGTCAACGAGGCAGACGCC
hu. 58-B	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCGGTCAACGAGGCAGACGCC
hu. 28-B	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCGGTCAACGAGGCAGACGCC
hu. 51-B	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCGGTCAACGAGGCAGACGCC
hu. 19-B	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCGGTCAACGAGGCAGACGCC
hu. 49-B	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCGGTCAACGAGGCAGACGCC
hu. 52-B	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCGGTCAACGAGGCAGACGCC
hu. 13-B	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCGGTCAACGAGGCAGACGCC
AAV2-B	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCGGTCAACGAGGCAGACGCC
hu. 20-B	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCGGTCAACGAGGCAGACGCC
hu. 24-B	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCGGTCAACGAGGCAGACGCC
hu. 64-B	141	TCCTGGGTACAAGTACCTTGGACCCCTTCAACGGACTCGACAAGGGAGAGCCGGTCAACGAGGCAGACGCC
hu. 27-B	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCGGTCAACGAGGCAGACGCC
hu. 21-B	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCGGTCAACGAGGCAGACGCC
hu. 22-B	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCGGTCAACGAGGCAGACGCC
hu. 23-B	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCGGTCAACGAGGCAGACGCC
hu. 7-C	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCGGTCAACGAGGCAGACGCC
hu. 61-C	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCGGTCAACGAGGCAGACGCC
rh. 56-C	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCGGTCAACGAGGCAGACGCC
hu. 9-C	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCGGTCAACGAGGCAGACGCC
hu. 54-C	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCGGTCAACGAGGCAGACGCC
hu. 53-C	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCGGTCAACGAGGCAGACGCC
hu. 60-C	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCGGTCAACGAGGCAGACGCC
hu. 55-C	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCGGTCAACGAGGCAGACGCC
hu. 2-C	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCGGTCAACGAGGCAGACGCC
hu. 1-C	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCGGTCAACGAGGCAGACGCC

FIG. 3G

hu. 18-C	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCCGGTCAACGAGGCAGACGCC
hu. 3-C	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCCGGTCAACGAGGCAGACGCC
hu. 25-C	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCCGGTCAACGAGGCAGACGCC
hu. 15-C	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCCGGTCAACGAGGCAGACGCC
hu. 16-C	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCCGGTCAACGAGGCAGACGCC
hu. 11-C	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCCGGTCAACGAGGCAGACGCC
hu. 10-C	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCCGGTCAACGAGGCAGACGCC
hu. 4-C	141	TCCTGGGTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCCGGTCAACGAGGCAGACGCC
rh. 54-D	141	TCCTGGCTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCCGGTCAACGCGCGGACGCCA
rh. 48-D	141	TCCTGGCTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCCGGTCAACGCGCGGACGCCA
rh. 55-D	141	TCCTGGCTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCCGGTCAACGCGCGGACGCCA
rh. 62-D	141	TCCTGGCTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCCGGTCAACGCGCGGACGCCA
AAV7-D	141	TCCTGGCTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCCGGTCAACGCGCGGACGCCA
rh. 52-E	141	TCCTGGCTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCCGGTCAACGCGCGGACGCCA
rh. 51-E	141	TCCTGGCTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCCGGTCAACGCGCGGACGCCA
hu. 39-E	141	TCCTGGCTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCCGGTCAACGCGCGGACGCCA
rh. 53-E	141	TCCTGGCTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCCGGTCAACGCGCGGACGCCA
hu. 37-E	141	TCCTGGCTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCCGGTCAACGCGCGGACGCCA
rh. 43-E	141	TCCTGGCTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCCGGTCAACGCGCGGACGCCA
rh. 50-E	141	TCCTGGCTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCCGGTCAACGCGCGGACGCCA
rh. 49-E	141	TCCTGGCTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCCGGTCAACGCGCGGACGCCA
rh. 61-E	141	TCCTGGCTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCCGGTCAACGCGCGGACGCCA
hu. 41-E	141	TCCTGGCTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCCGGTCAACGCGCGGACGCCA
rh. 64-E	141	TCCTGGCTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCCGGTCAACGCGCGGACGCCA
hu. 42-E	141	TCCTGGCTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCCGGTCAACGCGCGGACGCCA
rh. 57-E	141	TCCTGGCTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCCGGTCAACGCGCGGACGCCA
hu. 40-E	141	TCCTGGCTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCCGGTCAACGCGCGGACGCCA
AAV8-E	141	TCCTGGCTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCCGGTCAACGCGCGGACGCCA
rh. 58-E	141	TCCTGGCTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCCGGTCAACGCGCGGACGCCA
rh. 40-E	141	TCCTGGCTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGAGAGCCCGGTCAACGCGCGGACGCCA

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hu. 67-E	141	TCTTGGCTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGGAGCCCGTCAATGCGGGGACGCA	220	230	240	250	260	270	280
hu. 17-E	141	TCCTGGCTGCAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGGAGCCCGTCAACGCGGGGACGCA							
hu. 6-E	141	TCCTGGCTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGGAGCCCGTCAACGCGGGGACGCA							
hu. 66-E	141	TCCTGGCTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGGAGCCCGTCAACGCGGGGACGCA							
rh. 38-E	141	TCCTGGCTACAAGTACCTCGGACCCCTTCAACGGACTCGACAAGGGGAGCCCGTCAACGCGGGGACGCA							
hu. 32-F	141	TCCTGGGTACAAGTACCTCGGACCCCGCAACGGACTCGACAAGGGGAGCCCGTCAACGAGCAGACGCG							
AAV9/hu	141	TCCGGGTTACAAATACCTTGGACCCCGCAACGGACTCGACAAGGGGAGCCCGTCAACGAGCAGACGCG							
hu. 31-F	141	TCCTGGGTACAAGTACCTCGGACCCCGCAACGGACTCGACAAGGGGAGCCCGTCAACGAGCAGACGCG							
AAV5	208							
AAV3-3	211	GTGCGCGGAGAGCAGACATCTCGTACAAACGAGCAGCTTGAGGCGGGAGACAACCCCTACCTCAAGTACA							
AAV4-4	208	GAGCCCTCGAACACGACAAAGCTTACGACCAGCAGCTCAAGGCCGGTGACAAACCCCTACCTCAAGTACA							
AAV1-A	211	GAGCCCTCGAGCAGCAGAAAGGCTTACGACCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTGCGGTATA							
hu. 46-A	211	GCGCCCTCGAGCAGCAGAAAGCTTACGACCAGCAGCTCGACAGCGGAGACAACCCCTACCTCAAGTACA							
hu. 48-A	211	GCGCCCTCGAGCAGCAGAAAGGCTTACGACCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTGCGGTATA							
hu. 44-A	211	GCGCCCTCGAGCAGCAGAAAGGCTTACGACCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTCAAGTACA							
hu. 43-A	211	GCGCCCTCGAGCAGCAGAAAGGCTTACGACCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTGCGGTATA							
AAV6-A	211	GCGCCCTCGAGCAGCAGAAAGGCTTACGACCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTGCGGTATA							
hu. 34-B	211	GCGCCCTCGAGCAGCAGAAAGGCTTACGACCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTCAAGTACA							
hu. 47-B	211	GCGCCCTCGAGCAGCAGAAAGGCTTACGACCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTCAAGTACA							
hu. 29-B	211	GCGCCCTCGAGCAGCAGAAAGGCTTACGACCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTCAAGTACA							
hu. 63-B	211	GCGCCCTCGAGCAGCAGAAAGGCTTACGACCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTCAAGTACA							
hu. 56-B	211	GCGCCCTCGAGCAGCAGAAAGGCTTACGACCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTCAAGTACA							
hu. 45-B	211	GCGCCCTCGAGCAGCAGAAAGGCTTACGACCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTCAAGTACA							
hu. 57-B	208	GCGCCCTCGAGCAGCAGAAAGGCTTACGACCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTCAAGTACA							
hu. 35-B	211	GCGCCCTCGAGCAGCAGAAAGGCTTACGACCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTCAAGTACA							
hu. 58-B	211	GCGCCCTCGAGCAGCAGAAAGGCTTACGACCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTCAAGTACG							
hu. 28-B	211	GCGCCCTCGAGCAGCAGAAAGGCTTACGACCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTCAAGTACA							

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hu. 51-B	211	GCGGCCCTCGAGCAGCAAAAGCCTACGACCCGGCAGCTCGACAGCGGAGACAACCCGTACCTCAAGTACA
hu. 19-B	211	GCGGCCCTCGAGCAGCAAAAGCCTACGACCCGGCAGCTCGACAGCGGAGACAACCCGTACCTCAAGTACA
hu. 49-B	211	GCGGCCCTCGAGTACGACAAGGCCTACGACCCGGCAGCTCGACAGCGGAGACAACCCGTACCTCAAGTACA
hu. 52-B	211	GCGGCCCTCGAGCAGCAAAAGCCTACGACCCGGCAGCTCGACAGCGGAGACAACCCGTACCTCAAGTACA
hu. 13-B	211	GCGGCCCTCGAGCAGCAAAAGCCTACGACCCGGCAGCTCGACAGCGGAGACAACCCGTACCTCAAGTACA
AAV2-B	211	GCGGCCCTCGAGCAGCAAAAGCCTACGACCCGGCAGCTCGACAGCGGAGACAACCCGTACCTCAAGTACA
hu. 20-B	211	GCGGCCCTCGAGCAGCAAAAGCCTACGACCCGGCAGCTCGACAGCGGAGACAACCCGTACCTCAAGTACA
hu. 24-B	211	GCGGCCCTCGAGCAGCAAAAGCCTACGACCCGGCAGCTCGACAGCGGAGATAACCCGTACCTCAAGTACA
hu. 64-B	211	GCGGCCCTCGAGCAGCAAAAGCCTACGACCCGGCAGCTCGACGGCGGAGACAACCCGTACCTCAAGTACA
hu. 27-B	211	GCGGCCCTCGAGCAGCAAAAGCCTACGACCCGGCAGCTCGACAGCGGAGACAACCCGTACCTCAAGTACA
hu. 21-B	211	GCGGCCCTCGAGCAGCAAAAGCCTACGACCCGGCAGCTCGACAGCGGAGATAACCCGTACCTCAAGTACA
hu. 22-B	211	GCGGCCCTCGAGCAGCAAAAGCCTACGACCCGGCAGCTCGACAGCGGAGACAACCCGTACCTCAAGTACA
hu. 23-B	211	GCGGCCCTCGAGCAGCAAAAGCCTACGACCCGGCAGCTCGACAGCGGAGACAACCCGTACCTCAAGTACA
hu. 7-C	211	GCGGCCCTCGAGCAGCAAAAGCCTACGACCCGGCAGCTCGACAGCGGAGACAACCCGTACCTCAAGTACA
hu. 61-C	211	GCGGCCCTCGAGCAGCAAAAGCCTACGACCCGGCAGCTCGACAGCGGAGACAACCCGTACCTCAAGTACA
rh. 56-C	211	GCGGCCCTCGAGCAGCAAAAGCCTACGACCCGGCAGCTCGACAGCGGAGACAACCCGTACCTCAAGTACA
hu. 9-C	211	GCGGCCCTCGAGCAGCAAAAGCCTACGACCCGGCAGCTCGACAGCGGAGACAACCCGTACCTCAAGTACA
hu. 54-C	211	GCGGCTCTCGAGCAGCAAAAGCCTACGACCCGGCAGCTCGACAGCGGAGACAACCCGTACCTCAAGTACA
hu. 53-C	211	GCGGCCCTCGAGCAGCAAAAGCCTACGACCCGGCAGCTCGACAGCGGAGACAACCCGTACCTCAAGTACA
hu. 60-C	211	GCGGCCCTCGAGCAGCAAAAGCCTACGACCCGGCAGCTCGACAGCGGAGACAACCCGTACCTCAAGTACA
hu. 55-C	211	GCGGCCCTCGAGCAGCAAAAGCCTACGACCCGGCAGCTCGACAGCGGAGACAACCCGTACCTCAAGTACA
hu. 2-C	211	GCGGCCCTCGAGCAGCAAAAGCCTACGACCCGGCAGCTCGACAGCGGAGACAACCCGTACCTCAAGTACA
hu. 1-C	211	GCGGCCCTCGAGCAGCAAAAGCCTACGACCCGGCAGCTCGACAGCGGAGACAACCCGTACCTCAAGTACA
hu. 18-C	211	GCGGCCCTCGAGCAGCAAAAGCCTACGACCCGGCAGCTCGAAAAGCGGAGACAACCCGTACCTCAAGTACA
hu. 3-C	211	GCGGCCCTCGAGCAGCAAAAGCCTACGACCCGGCAGCTCGACAGCGGAGACAACCCGTACCTCAAGTACA
hu. 25-C	211	GCGGCCCTCGAGCAGCAAAAGCCTACGACCCGGCAGCTCAACAGCGGAGACAACCCGTACCTCAAGTACA
hu. 15-C	211	GCGGCCCTCGAGCAGCAAAAGCCTACGACCCGGCAGCTCGACAGCGGAGACAACCCGTACCTCAAGTACA
hu. 16-C	211	GCGGCCCTCGAGCAGCAAAAGCCTACGACCCGGCAGCTCGACAGCGGAGACAACCCGTACCTCAAGTACA
hu. 11-C	211	GCGGCCCTCGAGCAGCAAAAGCCTACGACCCGGCAGCTCGACAGCGGAGACAACCCGTACCTCAAGTACA
hu. 10-C	211	GCGGCCCTCGAGCAGCAAAAGCCTACGACCCGGCAGCTCGACAGCGGAGACAACCCGTACCTCAAGTACA

FIG. 35

hu. 4-C	211	GCGGCCCTCGAGCAGCACAAGGCCCTACGACCCGGCAGCTCGACAGCGGAGACAACCCGTACCTCAAGTACA
rh. 54-D	211	GCGGCCCTCGAGCAGCACAAGGCCCTACGACCCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTGCGGTATA
rh. 48-D	211	GCGGCCCTCGAGCAGCACAAGGCCCTACGACCCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTGCGGTATA
rh. 55-D	211	GCGGCCCTCGAGCAGCACAAGGCCCTACGACCCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTGCGGTATA
rh. 62-D	211	GCGGCCCTCGAGCAGCACAAGGCCCTACGACCCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTGCGGTATA
AAV7-D	211	GCGGCCCTCGAGCAGCACAAGGCCCTACGACCCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTGCGGTATA
rh. 52-E	211	GCGGCCCTCGAGCAGCACAAGGCCCTACGACCCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTGCGGTATA
rh. 51-E	211	GCGGCCCTCGAGCAGCACAAGGCCCTACGACCCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTGCGGTATA
hu. 39-E	211	GCGGCCCTCGAGCAGCACAAGGCCCTACGACCCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTGCGGTATA
rh. 53-E	211	GCGGCCCTCGAGCAGCACAAGGCCCTACGACCCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTGCGGTATA
hu. 37-E	211	GCGGCCCTCGAGCAGCACAAGGCCCTACGACCCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTGCGGTATA
rh. 43-E	211	GCGGCCCTCGAGCAGCACAAGGCCCTACGACCCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTGCGGTATA
rh. 50-E	211	GCGGCCCTCGAGCAGCACAAGGCCCTACGACCCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTGCGGTATA
rh. 49-E	211	GCGGCCCTCGAGCAGCACAAGGCCCTACGACCCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTGCGGTATA
rh. 61-E	211	GCGGCCCTCGAGCAGCACAAGGCCCTACGACCCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTGCGGTATA
hu. 41-E	211	GCGGCCCTCGAGCAGCACAAGGCCCTACGACCCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTGCGGTATA
rh. 64-E	211	GCGGCCCTCGAGCAGCACAAGGCCCTACGACCCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTGCGGTATA
hu. 42-E	211	GCGGCCCTCGAGCAGCACAAGGCCCTACGACCCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTGCGGTATA
rh. 57-E	211	GCGGCCCTCGAGCAGCACAAGGCCCTACGACCCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTGCGGTATA
hu. 40-E	211	GCGGCCCTCGAGCAGCACAAGGCCCTACGACCCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTGCGGTATA
AAV8-E	211	GCGGCCCTCGAGCAGCACAAGGCCCTACGACCCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTGCGGTATA
rh. 58-E	211	GCGGCCCTCGAGCAGCACAAGGCCCTACGACCCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTGCGGTATA
rh. 40-E	211	GCGGCCCTCGAGCAGCACAAGGCCCTACGACCCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTGCGGTATA
hu. 67-E	211	GCGGCCCTCGAGCAGCACAAGGCCCTACGACCCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTGCGGTATA
hu. 17-E	211	GCGGCCCTCGAGCAGCACAAGGCCCTACGACCCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTGCGGTATA
hu. 6-E	211	GCGGCCCTCGAGCAGCACAAGGCCCTACGACCCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTGCGGTATA
hu. 66-E	211	GCGGCCCTCGAGCAGCACAAGGCCCTACGACCCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTGCGGTATA
rh. 38-E	211	GCGGCCCTCGAGCAGCACAAGGCCCTACGACCCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTGCGGTATA
hu. 32-F	211	GCGGCCCTCGAGCAGCACAAGGCCCTACGACCCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTGCGGTATA
AAV9/hu	211	GCGGCCCTCGAGCAGCACAAGGCCCTACGACCCAGCAGCTCAAAGCGGGTGACAAATCCGTACCTGCGGTATA

FIG. 3K

hu. 24-B 281 ACCACGCCGACGCGGAGTTTCAGGAGCGCCTTAAAGAGGATACGTCCTTTTGGGGGCAACCTCGGACGAGC
 hu. 64-B 281 ACCACGCCGACGCGGAGTTCCAGGAGCGTCTTAAAGAAGATACGTCCTTTTGGGGGCAACCTCGGACGAGC
 hu. 27-B 281 ACCACGCCGACGCGGAGTTTCAGGAGCGTCTTAAAGAAGATACGTCCTTTTGGGGGCAACCTCGGACGAGC
 hu. 21-B 281 ACCACGCCGACGCGGAGTTTCAGGAGCGCCTTAAAGAGGATACGTCCTTTTGGGGGCAACCTCGGACGAGC
 hu. 22-B 281 ACCACGCCGACGCGGAGTTTCAGGAGCGCCTTAAAGGAGATACGTCCTTTTGGGGGCAACCTCGGACGAGC
 hu. 23-B 281 ACCACGCCGACGCGGAGTTTCAGGAGCGTCTTAAAGAAGATACGTCCTTTTGGGGGCAACCTCGGACGAGC
 hu. 7-C 281 ACCACGCCGACGCGGAGTTTCAGGAGCGTCTTAAAGAAGATACGTCCTTTTGGGGGCAACCTCGGACGAGC
 hu. 61-C 281 ACCACGCCGACGCGGAGTTTCAGGAGCGCCTTAAAGAAGATACGTCCTTTTGGGGGCAACCTCGGACGAGC
 rh. 56-C 281 ACCACGCCGACGCGGAGTTTCAGGAGCGTCTTAAAGAAGATACGTCCTTTTGGGGGCAACCTCGGACGAGC
 hu. 9-C 281 ACCACGCCGACGCGGAGTTTCAGGAGCGTCTTAAAGAAGATACGTCCTTTTGGGGGCAACCTCGGACGAGC
 hu. 54-C 281 ACCACGCCGACGCGGAGTTTCAGGAGCGTCTTAAAGAAGATACGTCCTTTTGGGGGCAACCTCGGACGAGC
 hu. 53-C 281 ACCACGCCGACGCGGAGTTTCAGGAGCGTCTTAAAGAAGATACGTCCTTTTGGGGGCAACCTCGGACGAGC
 hu. 60-C 281 ACCACGCCGACGCGGAGTTTCAGGAGCGCCTTAAAGAAGATACGTCCTTTTGGGGGCAACCTCGGACGAGC
 hu. 55-C 281 ACCACGCCGACGCGGAGTTTCAGGAGCGTCTTAAAGAAGATACGTCCTTTTGGGGGCAACCTCGGACGAGC
 hu. 2-C 281 ACCACGCCGACGCGAGAGTTTCAGGAGCGCCTTAAAGAAGATACGTCCTTTTGGGGGCAACCTCGGACGAGC
 hu. 1-C 281 ACCACGCCGACGCGAGAGTTTCAGGAGCGCCTTAAAGAAGATACGTCCTTTTGGGGGCAACCTCGGACGAGC
 hu. 18-C 281 ACCACGCCGACGCGGAGTTTCAGGAGCGTCTTAAAGAAGATACGTCCTTTTGGGGGCAACCTCGGACGAGC
 hu. 3-C 281 ACCACGCCGACGCGAGAGTTTCAGGAGCGCCTTAAAGAAGATACGTCCTTTTGGGGGCAACCTCGGACGAGC
 hu. 25-C 281 ACCACGCCGACGCGGAGTTTCAGGAGCGCCTTAAAGAAGATACGTCCTTTTGGGGGCAACCTCGGACGAGC
 hu. 15-C 281 ACCACGCCGACGCGGAGTTTCAGGAGCGCCTTAAAGAAGATACGTCCTTTTGGGGGCAACCTCGGACGAGC
 hu. 16-C 281 ACCACGCCGCGGAGTTTCAGGAGCGCCTTAAAGAAGATACGTCCTTTTGGGGGCAACCTCGGACGAGC
 hu. 11-C 281 ACCACGCCGACGCGGAGTTTCAGGAGCGTCTTAAAGAAGATACGTCCTTTTGGGGGCAACCTCGGACGAGC
 hu. 10-C 281 ACCACGCCGACGCGGAGTTTCAGGAGCGTCTTAAAGAAGATACGTCCTTTTGGGGGCAACCTCGGACGAGC
 hu. 4-C 281 ACCACGCCGACGCGAGAGTTTCAGGAGCGCCTTAAAGAAGATACGTCCTTTTGGGGGCAACCTCGGACGAGC
 rh. 54-D 281 ACCACGCCGACGCGGAGTTTCAGGAGCGTCTGCAAGAAGATACGTCCTTTTGGGGGCAACCTCGGACGAGC
 rh. 48-D 281 ACCACGCCGACGCGGAGTTTCAGGAGCGTCTGCAAGAAGATACGTCCTTTTGGGGGCAACCTCGGACGAGC
 rh. 55-D 281 ATCAGGCCGACGCGGAGTTTCAGGAGCGTCTGCAAGAAGATACGTCCTTTTGGGGGCAACCTCGGACGAGC
 rh. 62-D 281 ACCACGCCGACGCGGAGTTTCAGGAGCGTCTGCAAGAAGATACGTCCTTTTGGGGGCAACCTCGGACGAGC
 AAV7-D 281 ACCACGCCGACGCGGAGTTTCAGGAGCGTCTGCAAGAAGATACGTCCTTTTGGGGGCAACCTCGGACGAGC
 rh. 52-E 281 ATCAGGCCGACGCGGAGTTTCAGGAGCGTCTGCAAGAAGATACGTCCTTTTGGGGGCAACCTCGGACGAGC

rh. 51-E	281	ATCAGCCGACGCCGAGCTTCAGGAGCGTCTGCAAGAAGATACGTCTTTTGGGGGCAACCTCGGGCGAGC	360	370	380	390	400	410	420
hu. 39-E	281	ATCAGCCGACGCCGAGTTTCAGGAGCGTCTGCAAGAAGATACGTCTTTTGGGGGCAACCTCGGGCGAGC						
rh. 53-E	281	ATCAGCCGACGCCGAGTTTCAGGAGCGTCTGCAAGAAGATACGTCTTTTGGGGGCAACCTCGGGCGAGC	AGTCTTTCAGGCCCAAGAAAGGGTTCTCGAACCTTTTGGC---CTGGTTGAAGAGGGTGCTAAGACGGCC	348					
hu. 37-E	281	ACCAGCCGACGCCGAGTTTCAGGAGCGTCTGCAAGAAGATACGTCTTTTGGGGGCAACCTCGGGCGAGC	AGTCTTCCAGGCCCAAGAAAGAGGATCCCTTGAGCCCTCTTGGT---CTGGTTGAGGAAGCAGCTAAACGGCT	351					
rh. 43-E	281	ACCAGCCGACGCCGAGTTTCAGGAGCGTCTGCAAGAAGATACGTCTTTTGGGGGCAACCTCGGGCGAGC	AGTCTTCCAGGCCCAAGAAAGAGGGTTCTTGAACCTCTTGGT---CTGGTTGAGCAAGCGGGTGAGACGGCT	348					
rh. 50-E	281	ATCAGCCGACGCCGAGTTTCAGGAGCGTCTGCAAGAAGATACGTCTTTTGGGGGCAACCTCGGGCGAGC							
rh. 49-E	281	ATCAGCCGACGCCGAGTTTCAGGAGCGTCTGCAAGAAGATACGTCTTTTGGGGGCAACCTCGGGCGAGC							
rh. 61-E	281	ATCAGCCGACGCCGAGTTTCAGGAGCGTCTGCAAGAAGATACGTCTTTTGGGGGCAACCTCGGGCGAGC							
hu. 41-E	281	ACCAGCCGACGCCGAGTTTCAGGAGCGTCTACAAGAAGATACGTCTTTTGGGGGCAACCTCGGGCGAGC							
rh. 64-E	281	ATCAGCCGACGCCGAGTTTCAGGAGCGTCTGCAAGAAGATACGTCTTTTGGGGGCAACCTCGGGCGAGC							
hu. 42-E	281	ACCAGCCGACGCCGAGTTTCAGGAGCGTCTGCAAGAAGATACGTCTTTTGGGGGCAACCTCGGGCGAGC							
rh. 57-E	281	ATCAGCCGACGCCGAGTTTCAGGAGCGTCTGCAAGAAGATACGTCTTTTGGGGGCAACCTCGGGCGAGC							
hu. 40-E	281	ACCAGCCGACGCCGAGTTTCAGGAGCGTCTGCAAGAAGATACGTCTTTTGGGGGCAACCTCGGGCGAGC							
AAV8-E	281	ACCAGCCGACGCCGAGTTTCAGGAGCGTCTGCAAGAAGATACGTCTTTTGGGGGCAACCTCGGGCGAGC							
rh. 58-E	281	ATCAGCCGACGCCGAGTTTCAGGAGCGTCTGCAAGAAGATACGTCTTTTGGGGGCAACCTCGGGCGAGC							
rh. 40-E	281	ACCAGCCGACGCCGAGTTTCAGGAGCGTCTGCAAGAAGATACGTCTTTTGGGGGCAACCTCGGGCGAGC							
hu. 67-E	281	ACCAGCCGACGCCGAGTTTCAGGAGCGTCTGCAAGAAGATACGTCTTTTGGGGGCAACCTCGGGCGAGC							
hu. 17-E	281	ACCAGCCGACGCCGAGTTTCAGGAGCGTCTGCAAGAAGATACGTCTTTTGGGGGCAACCTCGGGCGAGC							
hu. 6-E	281	ACCAGCCGACGCCGAGTTTCAGGAGCGTCTGCAAGAAGATACGTCTTTTGGGGGCAACCTCGGGCGAGC							
hu. 66-E	281	ACCAGCCGACGCCGAGTTTCAGGAGCGTCTGCAAGAAGATACGTCTTTTGGGGGCAACCTCGGGCGAGC							
rh. 38-E	281	ACCAGCCGACGCCGAGTTTCAGGAGCGTCTACAAGAAGATACGTCTTTTGGGGGCAACCTCGGGCGAGC							
hu. 32-F	281	ACCAGCCGACGCCGAGTTCCAGGAGCGGCTCAAAGAAGATACGTCTTTTGGGGGCAACCTCGGGCGAGC							
AAV9/hu	281	ACCAGCCGACGCCGAGTTCCAGGAGCGGCTCAAAGAAGATACGTCTTTTGGGGGCAACCTCGGGCGAGC							
hu. 31-F	281	ACCAGCCGACGCCGAGTTCCAGGAGCGGCTCAAAGAAGATACGTCTTTTGGGGGCAACCTCGGGCGAGC							

FIG. 3N

AAV1-A	351	AGTCTTCCAGGCCAAGAAGCGGGTTCTCGAAACCTCTCGGT---
hu. 46-A	351	AGTCTTCCAGGCCAAGAAGCGGGTTCTCGAAACCTCTCGGT---
hu. 48-A	351	AGTCTTCCAGGCCAAGAAGCGGGTTCTCGAAACCTCTCGGT---
hu. 44-A	351	AGTCTTCCAGGCCAAGAAGCGGGTTCTCGAAACCTCTCGGT---
hu. 43-A	351	AGTCTTCCAGGCCAAGAAGCGGGTTCTCGAAACCTCTCGGT---
AAV6-A	351	AGTCTTCCAGGCCAAGAAGCGGGTTCTCGAAACCTTTTGGT---
hu. 34-B	351	AGTCTTCCAGGCCGAAAAAGAGGGTACTTGAACCTCTGGGC---
hu. 47-B	351	AGTCTTCCAGGCCGAAAAAGAGGGTTCTTGAACCTCTGGGC---
hu. 29-B	351	AGTCTTCCAGGCCAAAAAGAGGGTTCTTGAACCTCTGGGC---
hu. 63-B	351	AGTCTTCCAGGCCAAAAAGAGGGTTCTTGAACCTCTGGGC---
hu. 56-B	351	AGTCTTCCAGGCCAAAAAGAGGGTTCTTGAACCTCTGGGC---
hu. 45-B	351	AGTCTTCCAGGCCAAAAAGAGGGTTCTTGAACCTCTGGGC---
hu. 57-B	348	AGTCTTCCAGGCCAAAAAGAGGGTTCTTGAACCTCTGGGC---
hu. 35-B	351	AGTCTTCCAGGCCAAAAAGAGGGTACTTGAACCTCTGGGC---
hu. 58-B	351	AGTCTTCCAGGCCAAAAAGAGGGTTCTTGAACCTCTGGGC---
hu. 28-B	351	AGTCTTCCAGGCCAAAAAGAGGGTTCTTGAACCTCTGAGC---
hu. 51-B	351	AGTCTTCCAGGCCAAAAAGAGGGTTCTTGAACCTCTGGGC---
hu. 19-B	351	AGTCTTCCAGGCCAAAAAGAGGATTCTTGAACCTCTGGGC---
hu. 49-B	351	AGTCTTCCAGGCCAAAAAGAGGGTTCTTGAACCTCTGGGC---
hu. 52-B	351	AGTCTTCCAGGCCAAAAAGAGGGTTCTTGAACCTCTGGGC---
hu. 13-B	351	AGTCTTCCAGGCCAAAAAGAGGGTTCTTGAACCTCTGGGC---
AAV2-B	351	AGTCTTCCAGGCCAAAAAGAGGGTTCTTGAACCTCTGGGC---
hu. 20-B	351	AGTCTTCCAGGCCAAAAAGAGGATTCTTGAACCTCTGGGC---
hu. 24-B	351	AGTCTTCCAGGCCAAAAAGAGGATTCTTGAACCTCTGGGC---
hu. 64-B	351	AGTCTTCCAGGCCAAAAAGAGGGTTCTTGAACCTCTGGGC---
hu. 27-B	351	AGTCTTCCAGGCCAAAAAGAGGATTCTTGAACCTCTGGGC---
hu. 21-B	351	AGTCTTCCAGGCCAAAAAGAGGATTCTTGAACCTCTGGGC---
hu. 22-B	351	AGTCTTCCAGGCCAAAAAGAGGATTCTTGAACCTCTGGGC---
hu. 23-B	351	AGTCTTCCAGGCCAAAAAGAGGATTCTTGAACCTCTGGGC---
hu. 7-C	351	AGTCTTCCAGGCCAAAAAGAGGGTTCTTGAACCTCTGGGC---

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hu. 61-C 351 AGTCTTCCAGGCAAAAAGAGGGTTCTTGAACCTCTGGGC---CTGGTTGAGGAACCTGTTAAACGGCT
 rh. 56-C 351 AGTCTTCCAGGCAAAAAGAGGGTTCTTGAACCTCTGGGC---CTGGTTGAGGAACCTGTTAAGACGGCT
 hu. 9-C 351 AGTCTTCCAGGCAAAAAGAGGGTTCTTGAACCTCTGGGC---CTGGTTGAGGAACCTGTTAAGACGGCT
 hu. 54-C 351 AGTCTTCCAGGCAAAAAGAGGGTTCTTGAACCTCTGGGC---CTGGTTGAGGAACCTGTTAAGACGGCT
 hu. 53-C 351 AGTCTTCCAGGCAAAAAGAGGGTTCTTGAACCTCTGGGC---CTGGTTGAGGAACCTGTTAAGACGGCT
 hu. 60-C 351 AGTCTTCCAGGCAAAAAGAGGGTTCTTGAACCTCTGGGC---CTGGTTGAGGAACCTGTTAAGACGGCT
 hu. 55-C 351 AGTCTTCCAGGCAAAAAGAGGGTTCTTGAACCTCTGGGC---CTGGTTGAGGAACCTGTTAAGACGGCT
 hu. 2-C 351 AGTCTTCCAGGCAAAAAGAGGGTTCTTGAACCTCTGGGC---CTGGTTGAGGAACCTGTTAAGACGGCT
 hu. 1-C 351 AGTCTTCCAGGCAAAAAGAGGGTTCTTGAACCTCTGGGC---CTGGTTGAGGAACCTGTTAAGACGGCT
 hu. 18-C 351 AGTCTTCCAGGCAAAAAGAGGGTTCTTGAACCTCTGGGC---CTGGTTGAGGAACCTGTTAAGACGGCT
 hu. 3-C 351 AGTCTTCCAGGCAAAAAGAGGGTTCTTGAACCTCTGGGC---CTGGTTGAGGAACCTGTTAAGACGGCT
 hu. 25-C 351 AGTCTTCCAGGCAAAAAGAGGGTTCTTGAACCTCTGGGC---CTGGTTGAGGAACCTGTTAAGACGGCT
 hu. 15-C 351 AGTCTTCCAGGCAAAAAGAGGGTTCTTGAACCTCTGGGC---CTGGTTGAGGAACCTGTTAAGACGGCT
 hu. 16-C 351 AGTCTTCCAGGCAAAAAGAGGGTTCTTGAACCTCTGGGC---CTGGTTGAGGAACCTGTTAAGACGGCT
 hu. 11-C 351 AGTCTTCCAGGCAAAAAGAGGGTTCTTGAACCTCTGGGC---CTGGTTGAGGAACCTGTTAAGACGGCT
 hu. 10-C 351 AGTCTTCCAGGCAAAAAGAGGGTTCTTGAACCTCTGGGC---CTGGTTGAGGAACCTGTTAAGACGGCT
 hu. 4-C 351 AGTCTTCCAGGCAAAAAGAGGGTTCTTGAACCTCTGGGC---CTGGTTGAGGAACCTGTTAAGACGGCT
 rh. 54-D 351 AGTCTTCCAGGCAAAAAGAGGGTTCTTGAACCTCTGGGC---CTGGTTGAGGAACCTGTTAAGACGGCT
 rh. 48-D 351 AGTCTTCCAGGCAAAAAGAGGGTTCTTGAACCTCTGGGC---CTGGTTGAGGAACCTGTTAAGACGGCT
 rh. 55-D 351 AGTCTTCCAGGCAAAAAGAGGGTTCTTGAACCTCTGGGC---CTGGTTGAGGAACCTGTTAAGACGGCT
 rh. 62-D 351 AGTCTTCCAGGCAAAAAGAGGGTTCTTGAACCTCTGGGC---CTGGTTGAGGAACCTGTTAAGACGGCT
 AAV7-D 351 AGTCTTCCAGGCAAAAAGAGGGTTCTTGAACCTCTGGGC---CTGGTTGAGGAACCTGTTAAGACGGCT
 rh. 52-E 351 AGTCTTCCAGGCAAAAAGAGGGTTCTTGAACCTCTGGGC---CTGGTTGAGGAACCTGTTAAGACGGCT
 rh. 51-E 351 AGTCTTCCAGGCAAAAAGAGGGTTCTTGAACCTCTGGGC---CTGGTTGAGGAACCTGTTAAGACGGCT
 hu. 39-E 351 AGTCTTCCAGGCAAAAAGAGGGTTCTTGAACCTCTGGGC---CTGGTTGAGGAACCTGTTAAGACGGCT
 rh. 53-E 351 AGTCTTCCAGGCAAAAAGAGGGTTCTTGAACCTCTGGGC---CTGGTTGAGGAACCTGTTAAGACGGCT
 hu. 37-E 351 AGTCTTCCAGGCAAAAAGAGGGTTCTTGAACCTCTGGGC---CTGGTTGAGGAACCTGTTAAGACGGCT
 rh. 43-E 351 AGTCTTCCAGGCAAAAAGAGGGTTCTTGAACCTCTGGGC---CTGGTTGAGGAACCTGTTAAGACGGCT
 rh. 50-E 351 AGTCTTCCAGGCAAAAAGAGGGTTCTTGAACCTCTGGGC---CTGGTTGAGGAACCTGTTAAGACGGCT
 rh. 49-E 351 AGTCTTCCAGGCAAAAAGAGGGTTCTTGAACCTCTGGGC---CTGGTTGAGGAACCTGTTAAGACGGCT

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rh. 61-E	351	AGTCTTCCAGGCCAAGAAGCGGGTTCTCGAACCTCTCGGT---	CTGGTTGAGGAAGGCGCTAAGACGGCT
hu. 41-E	351	AGTCTTCCAGGCCAAGAAGCGGGTTCTCGAACCTCTCGGT---	CCGTTGAGGAAGCTGCTAAGACGGCT
rh. 64-E	351	AGTCTTCCAGGCCAAGAAGCGGGTTCTCGAACCTCTCGGT---	CTGGTTGAGGAAGGCGCTAAGACGGCT
hu. 42-E	351	AGTCTTCCAGGCCAAGAAGCGGGTTCTCGAACCTCTCGGT---	CTGGTTGAGGAAGGCGCTAAGACGGCT
rh. 57-E	351	AGTCTTCCAGGCCAAGAAGCGGGTTCTCGAACCTCTCGGT---	CTGGTTGAGGAAGGCGCTAAGACGGCT
hu. 40-E	351	AGTCTTCCAGGCCAAGAAGCGGGTTCTCGAACCTCTCGGT---	CTGGTTGAGGAAGCTGCTAAGACGGCT
AAV8-E	351	AGTCTTCCAGGCCAAGAAGCGGGTTCTCGAACCTCTCGGT---	CTGGTTGAGGAAGGCGCTAAGACGGCT
rh. 58-E	351	AGTCTTCCAGGCCAAGAAGCGGGTTCTCGAACCTCTCGGT---	CTGGTTGAGGAAGCTGCTAAGACGGCT
rh. 40-E	351	AGTCTTCCAGGCCAAGAAGCGGGTTCTCGAACCTCTCGGT---	CTGGTTGAGGAAGCTGCTAAGACGGCT
hu. 67-E	351	AGTCTTCCAGGCCAAGAAGCGGGTTCTCGAACCTCTCGGT---	CTGGTTGAGGAAGCTGCTAAGACGGCT
hu. 17-E	351	AGTCTTCCAGGCCAAGAAGCGGGTTCTCGAACCTCTCGGT---	CTGGTTGAGGAAGGCGCTAAGACGGCT
hu. 6-E	351	AGTCTTCCAGGCCAAGAAGCGGGTTCTCGAACCTCTCGGT---	CTGGTTGAGGAAGGCGCTAAGACGGCT
hu. 66-E	351	AGTCTTCCAGGCCAAGAAGCGGGTTCTCGAACCTCTCGGT---	CTGGTTGAGGAAGCTGCTAAGACGGCT
rh. 38-E	351	AGTCTTCCAGGCCAAGAAGCGGGTTCTCGAACCTCTCGGT---	CTGGTTGAGGAAGCTGCTAAGACGGCT
hu. 32-F	351	AGTCTTCCAGGCCAAGAAGCGGGTTCTCGAACCTCTCGGT---	CTGGTTGAGGAAGGCGCTAAGACGGCT
AAV9/hu	351	AGTCTTCCAGGCCAAGAAGCGGGTTCTCGAACCTCTCGGT---	CTGGTTGAGGAAGGCGCTAAGACGGCT
hu. 31-F	351	AGTCTTCCAGGCCAAGAAGCGGGTTCTCGAACCTCTCGGT---	CTGGTTGAGGAAGGCGCTAAGACGGCT

AAV5	415	430
AAV3-3	418	CCTACCGGAAAGCGGATAGACGACCACCTTTCCA-----	440
AAV4-4	415	CCTGGAAAGAGGGGCTGTAGATCAGTCTCCTCAG---	450
AAV1-A	418	CCTGGAAAGAGACCGTTGATTGAATCCCCCAG---	460
hu. 46-A	418	CCTGGAAAGAAACGTCGGTAGAGCAGTCGCCACAA---	470
hu. 48-A	418	CCTGGAAAGAAACGTCGGTAGAGCAGTCGCCACAA---	480
hu. 44-A	418	CCTGGAAAGAAACGTCGGTAGAGCAGTCGCCACAA---	490
hu. 43-A	418	CCTGGAAAGAGACCGGTAGAACCGTCACTCAGCGTTCCCCCGACTCCTCCACGGGCATCGGCAAGA	
AAV6-A	418	CCTGGAAAGAAACGTCGGTAGAGCAGTCGCCACAA---	
hu. 34-B	418	CCGGGAAAAAGAGGGCGGTAGAGCACTCTCCTGTG---	

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hu. 47-B 418 CCGGGAAGAGGCGGTAGAGCACTCTCTGTG---GAGCCAGACTCCTCCTCGGGAACCGGAAAGG
 hu. 29-B 418 CCGGGAAGAGGCGGTAGAGCACTCTCTGCA---GAGCCAGATTCTCCTCCGGAACCGGAAAGT
 hu. 63-B 418 CCGGGAAGAGGCGGTAGAGCACTCTCTGCG---GAGCCAGACTCCTCCTCGGGAACCGGAAAG
 hu. 56-B 418 CCGGGAAGAGGCGGTAGAGCACTCTCTGTG---GAGCCAGACTCCTCCTCGGGAACCGGAAAG
 hu. 45-B 418 CCGGGAAGAGGCGGTAGAGCACTCTCTGTG---GAGCCAGACTCCTCCTCGGGAACCGGAAAG
 hu. 57-B 415 CCGGGAAGAGGCGGTAGAGCACTCTCTGTG---GAGCCAGACTCCTCCTCGGGAACCGGAAAG
 hu. 35-B 418 CCGGGAAGAGGCGGTAGAGCACTCTCTGTG---GAGCCAGACTCCTCCTCGGGAACCGGAAAG
 hu. 58-B 418 CCGGGAAGAGGCGGTAGAGCACTCTCTGTG---GAGCCAGACTCCTCCTCGGGAACCGGAAAG
 hu. 28-B 418 CCGGGAAGAGGCGGTAGAGCACTCTCTGCA---GAGCCAGATTCTCCTCGGGAACCGGAAAGT
 hu. 51-B 418 CCAGGAAGAGGCGGTAGAGCACTCTCTGTG---GAGCCAGACTCCTCCTCGGGAACCGGAAAG
 hu. 19-B 418 CCGGGAAGAGGCGGTAGAGCACTCTCTGCG---GAGCCAGACTCCTCCTCGGGAACCGGAAAG
 hu. 49-B 418 CCGGGAAGAGGCGGTAGAGCACTCTCTGTG---GAGCCAGACTCCTCCTCGGGAACCGGAAAG
 hu. 52-B 418 CCGGGAAGAGGCGGTAGAGCACTCTCTGTG---GAGCCAGACTCCTCCTCGGGAACCGGAAAG
 hu. 13-B 418 CCGGGAAGAGGCGGTAGAGCACTCTCTGCG---GAGCCAGACTCCTCCTCGGGAACCGGAAAG
 AAV2-B 418 CCGGGAAGAGGCGGTAGAGCACTCTCTGTG---GAGCCAGACTCCTCCTCGGGAACCGGAAAG
 hu. 20-B 418 CCGGGAAGAGGCGGTAGAGCACTCTCTGCG---GAGCCAGACTCCTCCTCGGGAACCGGAAAG
 hu. 24-B 418 CCGGGAAGAGGCGGTAGAGCACTCTCTGCG---GAGCCAGACTCCTCCTCGGGAACCGGAAAG
 hu. 64-B 418 CCGGGAAGAGGCGGTAGAGCACTCTCTGCG---GAGCCAGACTCCTCCTCGGGAACCGGAAAG
 hu. 27-B 418 CCGGGAAGAGGCGGTAGAGCACTCTCTGCG---GAGCCAGACTCCTCCTCGGGAACCGGAAAG
 hu. 21-B 418 CCGGGAAGAGGCGGTAGAGCACTCTCTGCG---GAGCCAGACTCCTCCTCGGGAACCGGAAAG
 hu. 22-B 418 CCGGGAAGAGGCGGTAGAGCACTCTCTGCG---GAGCCAGACTCCTCCTCGGGAACCGGAAAG
 hu. 23-B 418 CCGGGAAGAGGCGGTAGAGCACTCTCTGCG---GAGCCAGACTCCTCCTCGGGAACCGGAAAG
 hu. 7-C 418 CCGGGAAGAGGCGGTAGAGCACTCTCTGCG---GAGCCAGACTCCTCCTCGGGAACCGGAAAG
 hu. 61-C 418 CCGGGAAGAGGCGGTAGAGCACTCTCTGTG---GAGCCAGACTCCTCCTCGGGAACCGGAAAG
 rh. 56-C 418 CCGGGAAGAGGCGGTAGAGCACTCTCTGCG---GAGCCAGACTCCTCCTCGGGAACCGGAAAG
 hu. 9-C 418 CCGGGAAGAGGCGGTAGAGCACTCTCTGTG---GAGCCAGACTCCTCCTCGGGAACCGGAAAG
 hu. 54-C 418 CCGGGAAGAGGCGGTAGAGCACTCTCTGCG---GAGCCAGACTCCTCCTCGGGAACCGGAAAG
 hu. 53-C 418 CCGGGAAGAGGCGGTAGAGCACTCTCTGCG---GAGCCAGACTCCTCCTCGGGAACCGGAAAG
 hu. 60-C 418 CCGGGAAGAGGCGGTAGAGCACTCTCTGTG---GAGCCAGACTCCTCCTCGGGAACCGGAAAG
 hu. 55-C 418 CCGGGAAGAGGCGGTAGAGCACTCTCTGCG---GAGCCAGACTCCTCCTCGGGAACCGGAAAG

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hu.2-C	418	CCGGGAAAAAGAGGCCGGTAGAGCACTCTCCTGTG---GAGCCAGACTCCTCCTCGGGAACCGGAAAAAG
hu.1-C	418	CCGGGAAAAAGAGGCCGGTAGAGCACTCTCCTGTG---GAGCCAGACTCCTCCTCGGGAACCGGAAAAAG
hu.18-C	418	CCGGGAAAAAGAGGCCGGTAGAGCACTCTCCTGTG---GAGCCAGACTCCTCCTCGGGAACCGGAAAAAG
hu.3-C	421	CCGGGAAAAAGAGGCCGGTAGAGCACTCTCCTGTG---GAGCCAGACTCCTCCTCGGGAACCGGAAAAAG
hu.25-C	418	CCGGGAAAAAGAGACCAGCGGTAGAGCACTCTCCTGCG---GAGCCAGACTCCTCCTCGGGAACCGGAAAAAG
hu.15-C	418	CCGGGAAAAAGAGGCCGGTAGAGCACTCTCCTGTG---GAGCCAGACTCCTCCTCGGGAACCGGAAAAAG
hu.16-C	418	CCGGGAAAAAGAGGCCGGTAGAGCACTCTCCTGTG---GAGCCAGACTCCTCCTCGGGAACCGGAAAAAG
hu.11-C	418	CCGGGAAAAAGAGGCCGGTAGAGCACTCTCCTGTG---GAGCCAGACTCCTCCTCGGGAACCGGAAAAAG
hu.10-C	418	CCGGGAAAAAGAGGCCGGTAGAGCACTCTCCTGTG---GAGCCAGACTCCTCCTCGGGAACCGGAAAAAG
hu.4-C	418	CCGGGAAAAAGAGGCCGGTAGAGCACTCTCCTGTG---GAGCCAGACTCCTCCTCGGGAACCGGAAAAAG
rh.54-D	418	CCTGGAAAGAAAGAGACCCGGTAGAACCGTCACTCAGCGTTCCCCCGACTCCTCCACGGGCATCGGCAAGA
rh.48-D	418	CCTGGAAAGAAAGAGACCCGGTAGAACCGTCACTCAGCGTTCCCCCGACTCCTCCACGGGCATCGGCAAGA
rh.55-D	418	CCTGGAAAGAAAGAGACCCGGTAGAACCGTCACTCAGCGTTCCCCCGACTCCTCCACGGGCATCGGCAAGA
rh.62-D	418	CCTGGAAAGAAAGAGACCCGGTAGAACCGTCACTCAGCGTTCCCCCGACTCCTCCACGGGCATCGGCAAGA
AAV7-D	418	CCTGCAAGAAAGAGACCCGGTAGAGCCGTCACTCAGCGTTCCCCCGACTCCTCCACGGGCATCGGCAAGA
rh.52-E	418	CCTGGAAAGAAAGAGACCCGGTAGAGCCGTCACTCAGCGTTCCCCCGACTCCTCCACGGGCATCGGCAAGA
rh.51-E	418	CCTGGAAAGAAAGAGACCCGGTAGAGCCGTCACTCAGCGTTCCCCCGACTCCTCCACGGGCATCGGCAAGA
hu.39-E	418	CCTGGAAAGAAAGAGACCCGGTAGAGCCGTCACTCAGCGTTCCCCCGACTCCTCCACGGGCATCGGCAAGA
rh.53-E	418	CCTGGAAAGAAAGAGACCCGGTAGAGCCGTCACTCAGCGTTCCCCCGACTCCTCCACGGGCATCGGCAAGA
hu.37-E	418	CCTGGAAAGAAAGAGACCCGGTAGAGCCGTCACTCAGCGTTCCCCCGACTCCTCCACGGGCATCGGCAAGA
rh.43-E	418	CCTGGAAAGAAAGAGACCCAGTAGAGCAGTCACTCAGCGTTCCCCCGACTCCTCCACGGGCATCGGCAAGA
rh.50-E	418	CCTGGAAAGAAAGAGACCCGGTAGAGCCGTCACTCAGCGTTCCCCCGACTCCTCCACGGGCATCGGCAAGA
rh.49-E	418	CCTGGAAAGAAAGAGACCCGGTAGAGCCGTCACTCAGCGTTCCCCCGACTCCTCCACGGGCATCGGCAAGA
rh.61-E	418	CCTGGAAAGAAAGAGACCCGGTAGAGCCGTCACTCAGCGTTCCCCCGACTCCTCCACGGGCATCGGCAAGA
hu.41-E	418	CCTGGAAAGAAAGAGACCCGGTAGAACCGCCACTCAGCGTTCCCCCGACTCCTCCACGGGCATCGGCAAGA
rh.64-E	418	CCTGGAAAGAAAGAGACCCGGTAGAGCCGTCACTCAGCGTTCCCCCGACTCCTCCACGGGCATCGGCAAGA
hu.42-E	418	CCTGGAAAGAAAGAGACCCGGTAGAACCGTCACTCAGCGTTCCCCCGACTCCTCCACGGGCATCGGCAAGA
rh.57-E	418	CCTGGAAAGAAAGAGACCCGGTAGAGCCGTCACTCAGCGTTCCCCCGACTCCTCCACGGGCATCGGCAAGA
hu.40-E	418	CCTGGAAAGAAAGAGACCCGGTAGAACCGTCACTCAGCGTTCCCCCGACTCCTCCACGGGCATCGGCAAGA
AAV8-E	418	CCTGGAAAGAAAGAGACCCGGTAGAGCCATCACTCAGCGTTCTCCAGACTCCTCTACGGGCATCGGCAAGA

FIG. 35

rh. 58-E	418	CCTGGAAGAAAGAGACCGGTAGAACCGTACCTCAGCGTTCCCCCGACTCCTCCACGGGCATCGGCAAGA	500	510	520	530	540	550	560
rh. 40-E	418	CCTGGAAGAAAGAGACCGGTAGAACCGTACCTCAGCGTTCCCCCGACTCCTCCACGGGCATCGGCAAGA						
hu. 67-E	418	CCTGGAAGAAAGAGACCGGTAGAACCGTACCTCAGCGTTCCCCCGACTCCTCCACGGGCATCGGCAAGA							
hu. 17-E	418	CCTGGAAGAAAGAGACCGGTAGAGCCATCACCCAGCGTTCTCCAGACTCCTCTACGGGCATCGGCAAGA							
hu. 6-E	418	CCTGGAAGAAAGAGACCGGTAGAGCCATCACCCAGCGTTCTCCAGACTCCTCTACGGGCATCGGCAAGA							
hu. 66-E	418	CCTGGAAGAAAGAGACCGGTAGAACCGTACCTCAGCGTTCCCCCGACTCCTCCCGGGCATCGGCAAGA							
rh. 38-E	418	CCTGGAAGAAAGAGACCGGTAGAACCGTACCTCAGCGTTCCCCCGACTCCTCCACGGGCATCGGCAAGA							
hu. 32-F	418	CCTGGAAGAAAGAGGCGCTGTAGAGCAGTCTCCTCAG---GAACCGGACTCCTCCGCGGGTATTGGCAAAT							
AAV9/hu	418	CCTGGAAGAAAGAGGCGCTGTAGAGCAGTCTCCTCAG---GAACCGGACTCCTCCGCGGGTATTGGCAAAT							
hu. 31-F	418	CCTGGAAGAAAGAGGCGCTGTAGAGCAGTCTCCTCAG---GAACCGGACTCCTCCGCGGGTATTGGCAAAT							
AAV5	452	GAAAGAAAGGCTCGGACCCGAAGAGGACTCCAAGCCTTCCACCTCGTCAGACGCCGAAGCTGGACCCAGCGG						
AAV3-3	485	CGGGCAACAGCCTGCCAGAAAAAGACTAAATTTGGTCAGACTGGAGACTCAGAGTCAGTCCCAGAC--							
AAV4-4	482	AAGGCAAGCAGCGCGCTAAAAAGAGCTCGTTTCGAAGACGAAACTGGAGCAGCGGACGCC-----							
AAV1-A	485	CAGGCCAGCAGCCCGCTAAAAAGAGACTCAATTTTGGTCAGACTGGGACTCAGAGTCAGTCCCCGAT--							
hu. 46-A	485	CAGGCCAGCAGCCCGCTAAAAAGAGACTCAATTTTGGTCAGACTGGGACTCAGAGTCAGTCCCCGAT--							
hu. 48-A	485	CAGGCCAGCAGCCCGCTAAAAAGAGACTCAATTTTGGCCAGACTGGCCAGTCAAGTCAGTCCCCGAT--							
hu. 44-A	485	CAGGCCAGCAGCCCGCTAAAAAGAGACTCAATTTTGGTCAGACTGGGACTCAGAGTCAGTCCCCGAT--							
hu. 43-A	488	AAGGCCAGCAGCCCGCTAAAAAGAGACTGAACTTTTGGTCAGACTGGCCAGTCAAGTCAGTCCCCGAC--							
AAV6-A	485	CAGGCCAGCAGCCCGCTAAAAAGAGACTCAATTTTGGTCAGACTGGCCAGTCAAGTCAGTCCCCGAC--							
hu. 34-B	485	CGGGCCAGCAGCCTGCAAGAAAAAGATTGAATTTTGGTCAGACTGGAGACGCAGACTCAGTACCTGAC--							
hu. 47-B	485	CGGGCCAGCAGCCTGCAAGAAAAAGATTGAATTTTGGTCAGACTGGAGACGCAGACTCAGTACCTGAC--							
hu. 29-B	485	CGGGCAACAGCCTGCAAGAAAAAGATTGAATTTTGGTCAGACTGGAGACTCAGACTCCGTACCTGAC--							
hu. 63-B	485	CGGGCCAGCAGCCTGCAAGAAAAAGATTGAATTTTGGTCAGACTGGAGACGCAGACTCCGTACCTGAC--							
hu. 56-B	485	CGGGCAACAGCCTGCAAGAAAAAGATTGAATTTTGGTCAGACTGGAGACGCAGACTCCGTACCTGAC--							
hu. 45-B	485	CGGGCCAGCAGCCTGCAAGAAAAAGATTGAATTTTGGTCAGACTGGAGACGCAGACTCAGTACCTGAC--							
hu. 57-B	482	CGGGCAACAGCCTGCAAGAAAAAGATTGAATTTTGGTCAGACTGGAGACGCAGACTCCGTACCTGAC--							
hu. 35-B	485	CGGGCCAGCAGCCTGCAAGAAAAAGATTGAATTTTGGTCAGACTGGAGACGCAGACTCAGTACCTGAC--							

FIG. 3F

hu. 58-B 485 CCGGCAACCCAGCCTGCAAGAAAGAGATTGAATTTTCGGTCAGACTGGAGACGCAGACTCCGTACCTGAC--
 hu. 28-B 485 CCGGCAACCCAGCCTGCAAGAAAGAGATTGAATTTTCGGTCAGACTGGAGACTCAGACTCCGTACCTGAC--
 hu. 51-B 485 CCGGCCAGCAGCCTGCAAGAAAGAGATTGAATTTTCGGTCAGACTGGAGACGCAGACTCAGTACCTGAC--
 hu. 19-B 485 CCGGCCAGCAGCCTGCAAGAAAGAGATTGAATTTTCGGCCAGACTGGAGACGCAGACTCAGTACCTGAC--
 hu. 49-B 485 CCGGCCAGCAGCCTGCGAGAAAGAGATTGAATTTTCGGTCAGACTGGAGACGCAGACTCCGTACCTGAC--
 hu. 52-B 485 CCGGCCAGCAGCCTGCAAGAAAGAGATTGAATTTTCGGTCAGACTGGAGACGCAGACTCAGTACCTGAC--
 hu. 13-B 485 CCGGCCAGCAGCCTGCAAGAAAGAGATTGAATTTTCGGTCAGACTGGAGACGCAGACTCCGTACCTGAC--
 AAV2-B 485 CCGGCCAGCAGCCTGCAAGAAAGAGATTGAATTTTCGGTCAGACTGGAGACGCAGACTCAGTACCTGAC--
 hu. 20-B 485 CCGGCCAGCAGCCTGCAAGAAAGAGATTGAATTTTCGGTCAGACTGGAGACGCAGACTCAGTACCTGAC--
 hu. 24-B 485 CCGGCCAGCAGCCTGCAAGAAAGAGATTGAATTTTCGGTCAGACTGGAGACGCAGACTCAGTACCTGAC--
 hu. 64-B 485 CCGGCCAGCAGCCTGCAAGAAAGAGATTGAATTTTCGGTCAGACTGGAGACGCAGACTCCGTACCTGAC--
 hu. 27-B 485 CCGGCCAGCAGCCTGCAAGAAAGAGATTGAATTTTCGGTCAGACTGGAGACGCAGACTCAGTACCTGAC--
 hu. 21-B 485 CCGGCCAGCAGCCTGCAAGAAAGAGATTGAATTTTCGGTCAGACTGGAGACGCAGACTCAGTACCTGAC--
 hu. 22-B 485 CCGGCCAGCAGCCTGCAAGAAAGAGATTGAATTTTCGGTCAGACTGGAGACGCAGACTCAGTACCTGAC--
 hu. 23-B 485 CCGGCCAGCAGCCTGCAAGAAAGAGATTGAATTTTCGGTCAGACTGGAGACGCAGACTCAGTACCTGAC--
 hu. 7-C 485 CCGGCCAGCAGCCTGCAAGAAAGAGATTGAATTTTCGGTCAGACTGGAGACGCAGACTCCGTACCTGAC--
 hu. 61-C 485 CCGGCCAGCAGCCTGCAAGAAAGAGATTGAATTTTCGGTCAGACTGGAGACGCAGACTCCGTACCTGAC--
 rh. 56-C 485 CCGGCCATCAGCCTGCGAGAAAGAGATTGAATTTTCGGTCAGACTGGAGACGCAGACTCCGTACCTGAC--
 hu. 9-C 485 CCGGCCAGCAGCCTGCAAGAAAGAGATTGAATTTTCGGTCAGACTGGAGACGCAGACTCCGTACCTGAC--
 hu. 54-C 485 CCGGCCAGCAGCCTGCAAGAAAGAGATTGAATTTTCGGTCAGACTGGAGACGCAGACTCCGTACCTGAC--
 hu. 53-C 485 CCGGCCAGCAGCCTGCAAGAAAGAGATTGAATTTTCGGTCAGACTGGAGACGCAGACTCCGTACCTGAC--
 hu. 60-C 485 CCGGCCAGCAGCCTGCAAGAAAGAGATTGAATTTTCGGTCAGACTGGAGACGCAGACTCCGTACCTGAC--
 hu. 55-C 485 CCGGCCAGCAGCCTGCAAGAAAGAGATTGAATTTTCGGTCAGACTGGAGACGCAGACTCCGTACCTGAC--
 hu. 2-C 485 CCGGCCAGCGCCTGCAAGAAAGAGATTGAATTTTCGGTCAGACTGGAGACGCAGACTCCGTACCTGAC--
 hu. 1-C 485 CCGGCCAGCAGCCTGCAAGAAAGAGATTGAATTTTCGGTCAGACTGGAGACGCAGACTCCGTACCTGAC--
 hu. 18-C 485 CCGGCCAGCAGCCTGCGAGAAAGAGATTGAATTTTCGGTCAGACTGGAGACGCAGACTCCGTACCTGAC--
 hu. 3-C 488 CCGGCCAGCAGCCTGCAAGAAAGAGATTGAATTTTCGGTCAGACTGGAGACGCAGACTCCGTACCTGAC--
 hu. 25-C 485 CCGGCCAGCAGCCTGCAAGAAAGAGATTGAATTTTCGGTCAGACTGGAGACGCAGACTCCGTACCTGAC--
 hu. 15-C 485 CCGGCAACCCAGCCTGCAAGAAAGAGATTGAATTTTCGGTCAGACTGGAGACGCAGACTCCGTACCTGAC--
 hu. 16-C 485 CCGGCAACCCAGCCTGCAAGAAAGAGATTGAATTTTCGGTCAGACTGGAGACGCAGACTCCGTACCTGAC--

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hu.11-C 485 CGGGCCATCAGCCTGCGAGAAAGAGATTGAATTTTGGTCAGACTGGAGACGCAGACTCCGTACCTGAC--
 hu.10-C 485 CGGGCCATCAGCCTGCGAGAAAGAGATTGAATTTTGGTCAGACTGGAGACGCAGACTCCGTACCTGAC--
 hu.4-C 485 CGGGCCAGCAGCCTGCAAGAAAGATTAATTTTGGTCAGACTGGAGACGCAGACTCCGTACCTGAC--
 rh.54-D 488 AAGGCCAGCAGCCCGCTAGAAAGAGACTGAACTTTGGGCAGACTGGCGACTCAGAGTCAGTCCCCGAC--
 rh.48-D 488 AAGGCCAGCAGCCCGCTAGAAAGAGACTGAACTTTGGGCAGACTGGCGACTCAGAGTCAGTCCCCGAC--
 rh.55-D 488 AAGGCCAGCAGCCCGCCAGAAAGAGACTCAATTTTCGGTCAGACTGGCGACTCAGAGTCAGTCCCCGAC--
 rh.62-D 488 AAGGCCAGCAGCCCGCTAGAAAGAGACTGAACTTTTGGGCAGACTGGCGACTCAGAGTCAGTCCCCGAC--
 AAV7-D 488 AAGGCCAGCAGCCCGCCAGAAAGAGACTCAATTTTCGGTCAGACTGGCGACTCAGAGTCAGTCCCCGAC--
 rh.52-E 488 AAGGCCAGCAGCCCGCCAGAAAGAGACTCAATTTTCGGTCAGACTGGCGACTCAGAGTCAGTCCCCGAC--
 rh.51-E 488 AAGGCCAGCAGCCCGCCAGAAAGAGACTCAATTTTCGGTCAGACTGGCGACTCAGAGTCAGTCCCCGAC--
 hu.39-E 488 AAGGCCAGCAGCCCGCCAGAAAGAGACTCAATTTTCGGTCAGACTGGCGACTCAGAGTCAGTCCCCGAC--
 rh.53-E 488 AAGGCCAGCAGCCCGCCAGAAAGAGACTCAATTTTCGGTCAGACTGGCGACTCAGAGTCAGTCCCCGAC--
 hu.37-E 488 AAGGCCAGCAGCCCGCTAAAAGAGACTGAACTTTTGGTCAGACTGGCGACTCAGAGTCAGTCCCCGAC--
 rh.43-E 485 AAGGCCAACAGCCCGCCAGAAAAGACTCAATTTTGGCCAGACTGGCGACTCAGAGTCAGTCCCCGAC--
 rh.50-E 488 AAGGCCAGCAGCCCGCCGAAAGAGACTCAATTTTCGGTCAGACTGGCGACTCAGAGTCAGTCCCCGAC--
 rh.49-E 488 AAGGCCAGCAGCCCGCCAGAAAGAGACTCAATTTTCGGTCAGACTGGCGACTCAGAGTCAGTCCCCGAC--
 rh.61-E 488 AAGGCCAGCAGCCCGCCAGAAAGAGACTCAATTTTCGGTCAGACTGGCGACTCAGAGTCAGTCCCCGAC--
 hu.41-E 488 AAGGCCAGCAGCCCGCTAAAAGAGACTGAACTTTTGGTCAGACTGGCGACTCAGAGTCAGTCCCCGAC--
 rh.64-E 488 AAGGCCAGCAGCCCGCCAGAAAGAGACTCAATTTTCGGTCAGACTGGCGACTCAGAGTCAGTCCCCGAC--
 hu.42-E 488 AAGGCCAGCAGCCCGCTAAAAGAGACTGAACTTTTGGTCAGACTGGCGACTCAGAGTCAGTCCCCGAC--
 rh.57-E 488 AAGGCCAGCAGCCCGCCAGAAAGAGACTCAATTTTCGGTCAGACTGGCGACTCAGAGTCAGTCCCCGAC--
 hu.40-E 488 AAGGCCAGCAGCCCGCTAAAAGAGACTGAGCTTTGGTCAGACTGGCGACTCAGAGTCAGTCCCCGAC--
 AAV8-E 488 AAGGCCAACAGCCCGCCAGAAAAGACTCAATTTTGGTCAGACTGGCGACTCAGAGTCAGTCCCCGAC--
 rh.58-E 488 AAGGCCAGCAGCCCGCTAGAAAGAGACTGAACTTTTGGCAGACTGGCGACTCAGAGTCAGTCCCCGAC--
 rh.40-E 488 AAGGCCAGCAGCCCGCTAAAAGAGACTGAACTTTTGGTCAGACTGGCGACTCAGAGTCAGTCCCCGAC--
 hu.67-E 488 AAGGCCAGCAGCCCGCTAAAAGAGACTGAACTTTTGGTCAGACTGGCGACTCAGAGTCAGTCCCCGAC--
 hu.17-E 488 CAGGCCAGCAGCCCGCGGAAAAGAGACTCAACTTTTGGCAGACTGGCGACTCAGAGTCAGTCCCCGAC--
 hu.6-E 488 CAGGCCAGCAGCCCGCGGAAAAGAGACTCAACTTTTGGCAGACTGGCGACTCAGAGTCAGTCCCCGAC--
 hu.66-E 488 AAGGCCAGCAGCCCGCTAAAAGAGACTGAACTTTTGGTCAGACTGGCGACTCAGAGTCAGTCCCCGAC--
 rh.38-E 488 AAGGCCAGCGGGCCCGCTAAAAGAGACTGAACTTTTGGTCAGACTGGCGACTCAGAGTCAGTCCCCGAC--

FIG. 3V

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hu.32-F	485	CGGGTTACAGCCCGCTAAAAAGAACTCAATTTCGGTCAGACTGGCGACACAGAGTCAGTCCCCGAC--	570	580	590	600	610	620	630
AAV9/hu	485	CGGGTGACAGCCCGCTAAAAAGAGACTCAATTTCGGTCAGACTGGCGACACAGAGTCAGTCCCAGAC--							
hu.31-F	485	CGGGTTACAGCCCGCTAAAAAGAACTCAATTTCGGTCAGACTGGCGACACAGAGTCAGTCCCCGAC--							
								
AAV5	522	ATCCAGCAGCTGCAAAATCCAGAGCCCAACAGCCTCAAGTTTGGGAGCTGATACAATGTCTGCGGGAGGT							
AAV3-3-	552	-CCTCAACCTCTCGGAGAACACAGCAGAGCCGCCACAAAGTTTGGGATCTAATAACAATGGCTTCAGGCGGT							
AAV4-4-	546	-----CCTGAGGGATCAACTTCGGAGCCATGTCT-----GATGACAGTGAGATGCGTGCAGCAGCT							
AAV1-A-	552	-CCACAACTCTCGGAGAACCTCCAGCAACCCCGCTGCTGTGGGACCTACTACAATGGCTTCAGGCGGT							
hu.46-A	552	-CCACAACTCTCGGAGAACCTCCAGCAACCCCGCTGCTGTGGGACCTACTACAATGGCTTCAGGCGGT							
hu.48-A	552	-CCACAACTCTCGGAGAACCTCCAGCAACCCCGCTGCTGTGGGACCTACTACAATGGCTTCAGGCGGT							
hu.44-A	552	-CCACAACTCTCGGAGAACCTCCAGCAACCCCGCTGCTGTGGGACCTACTACAATGGCTTCAGGCGGT							
hu.43-A	555	-CCTCAACCAATCGGAGAACACAGCAGAGCCCTCTGGTCTGGGACCTACTACAATGGCTTCAGGCGGT							
AAV6-A	552	-CCACAACTCTCGGAGAACCTCCAGCAACCCCGCTGCTGTGGGACCTACTACAATGGCTTCAGGCGGT							
hu.34-B	552	-CCCAGCCTCTCGGACAGCCACAGCAGCCCCCTCTGGTCTGGGAACTAATACGATGGCTACAGGCAGT							
hu.47-B	552	-CCCAGCCTCTCGGACAGCCACAGCAGCCCCCTCTGGTCTGGGAACTAATACGATGGCTACAGGCAGT							
hu.29-B	552	-CCCAGCCTCTCGGACAGCCACAGCAGCCCCCTCTGGTCTGGGAACTAATACGATGGCTACAGGCAGT							
hu.63-B	552	-CCCAGCCTCTCGGACAGCCACAGCAGCCCCCTCTGGTCTGGGAACTAATACGATGGCTACAGGCAGT							
hu.56-B	552	-CCCAGCCTCTCGGACAGCCACAGCAGCCCCCTCTGGTCTGGGAACTAATACGATGGCTACAGGCAGT							
hu.45-B	552	-CCCAGCCTCTCGGACAGCCACAGCAGCCCCCTCTGGTCTGGGAACTAATACGATGGCTACAGGCAGT							
hu.57-B	549	-CCCAGCCTCTCGGACAGCCACAGCAGCCCCCTCTGGTCTGGGAACTAATACGATGGCTACAGGCAGT							
hu.35-B	552	-CCCAGCCTCTCGGACAGCCACAGCAGCCCCCTCTGGTCTGGGAACTAATACGATGGCTACAGGCAGT							
hu.58-B	552	-CCCAGCCTCTCGGACAGCCACAGCAGCCCCCTCTGGTCTGGGAACTAATACGATGGCTACAGGCAGT							
hu.28-B	552	-CCCAGCCTCTCGGACAGCCACAGCAGCCCCCTCTGGTCTGGGAACTAATACGATGGCTACAGGCAGT							
hu.51-B	552	-CCCAGCCTCTCGGACAGCCACAGCAGCCCCCTCTGGTCTGGGAACTAATACGATGGCTACAGGCAGT							
hu.19-B	552	-CCCAGCCTCTCGGACAGCCACAGCAGCCCCCTCTGGTCTGGGAACTAATACGATGGCTACAGGCAGT							
hu.49-B	552	-CCCAGCCTCTCGGACAGCCACAGCAGCCCCCTCTGGTCTGGGAACTAATACGATGGCTACAGGCAGT							
hu.52-B	552	-CCCAGCCTCTCGGACAGCCACAGCAGCCCCCTCTGGTCTGGGAACTAATACGATGGCTACAGGCAGT							
hu.13-B	552	-CCCAGCCTCTCGGACAGCCACAGCAGCCCCCTCTGGTCTGGGAACTAATACGATGGCTACAGGCAGT							

FIG. 3W

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AAV2-B	552	-CCCCAGCCTCTCGGACAGCCACCAGCAGCCCCCTCTGGTCTGGGAACCTAATACGATGGCTACAGGCAGT
hu. 20-B	552	-CCCCAGCCTCTCGGACAGCCACCAGCAGCCCCCTCTGGTCTGGGAACCTAATACGATGGCTTCAGGCAGT
hu. 24-B	552	-CCCCGGCCTCTCGGACAGCCACCAGCAGCCCCCTCTGGTCTGGGAACCTAATACGATGGCTTCAGGCAGT
hu. 64-B	552	-CCCCAGCCTCTCGGACAGCCACCAGCAGCCCCCTCTGGTCTGGGAACCTAATACGATGGCTACAGGCAGT
hu. 27-B	552	-CCCCAGCCTCTCGGACAGCCACCAGCAGCCCCCTCTGGTCTGGGAACCTAATACGATGGCTTCAGGCAGT
hu. 21-B	552	-CCCCGGCCTCTCGGACAGCCACCAGCAGCCCCCTCTGGTCTGGGAACCTAATACGATGGCTTCAGGCAGT
hu. 22-B	552	-CCCCAGCCTCTCGGACAGCCACCAGCAGCCCCCTCTGGTCTGGGAACCTAATACGATGGCTTCAGGCAGT
hu. 23-B	552	-CCCCAGCCTCTCGGACAGCCACCAGCAGCCCCCTCTGGTCTGGGAACCTAATACGATGGCTTCAGGCAGT
hu. 7-C	552	-CCCCAGCCTCTCGGACAGCCACCAGCAGCCCCCTCTGGTCTGGGAACCTAATACGATGGCTTCAGGCAGT
hu. 61-C	552	-CCCCAGCCTCTCGGACAGCCACCAGCAGCCCCCTCTGGTCTGGGAACCTAATACGATGGCTTCAGGCAGT
rh. 56-C	552	-CCCCAGCCTCTCGGACAGCCACCAGCAGCCCCCTCTGGTCTGGGAACCTAATACGATGGCTTCAGGCAGT
hu. 9-C	552	-CCCCAGCCTCTCGGACAGCCACCAGCAGCCCCCTCTGGTCTGGGAACCTAATACGATGGCTTCAGGCAGT
hu. 54-C	552	-CCCCAGCCTCTCGGACAGCCACCAGCAGCCCCCTCTGGTCTGGGAACCTAATACGATGGCTTCAGGCAGT
hu. 53-C	552	-CCCCAGCCTCTCGGACAGCCACCAGCAGCCCCCTCTGGTCTGGGAACCTAATACGATGGCTTCAGGCAGT
hu. 60-C	552	-CCCCAGCCTCTCGGACAGCCACCAGCAGCCCCCTCTGGTCTGGGAACCTAATACGATGGCTTCAGGCAGT
hu. 55-C	552	-CCCCAGCCTCTCGGACAGCCACCAGCAGCCCCCTCTGGTCTGGGAACCTAATACGATGGCTTCAGGCAGT
hu. 2-C	552	-CCCCAGCCTCTCGGACAGCCACCAGCAGCCCCCTCTGGTCTGGGAACCTAATACGATGGCTTCAGGCAGT
hu. 1-C	552	-CCCCAGCCTCTCGGACAGCCACCAGCAGCCCCCTCTGGTCTGGGAACCTAATACGATGGCTTCAGGCAGT
hu. 18-C	552	-CCCCAGCCTCTCGGACAGCCACCAGCAGCCCCCTCTGGTCTGGGAACCTAATACGATGGCTTCAGGCAGT
hu. 3-C	555	-CCCCAGCCTCTCGGACAGCCACCAGCAGCCCCCTCTGGTCTGGGAACCTAATACGATGGCTTCAGGCAGT
hu. 25-C	552	-CCCCAGCCTCTCGGACAGCCACCAGCAGCCCCCTCTGGTCTGGGAACCTAATACGATGGCTTCAGGCAGT
hu. 15-C	552	-CCCCAGCCTCTCGGACAGCCACCAGCAGCCCCCTCTGGTCTGGGAACCTAATACGATGGCTTCAGGCAGT
hu. 16-C	552	-CCCCAGCCTCTCGGACAGCCACCAGCAGCCCCCTCTGGTCTGGGAACCTAATACGATGGCTTCAGGCAGT
hu. 11-C	552	-CCCCAGCCTCTCGGACAGCCACCAGCAGCCCCCTCTGGTCTGGGAACCTAATACGATGGCTTCAGGCAGT
hu. 10-C	552	-CCCCAGCCTCTCGGACAGCCACCAGCAGCCCCCTCTGGTCTGGGAACCTAATACGATGGCTTCAGGCAGT
hu. 4-C	552	-CCCCAGCCTCTCGGACAGCCACCAGCAGCCCCCTCTGGTCTGGGAACCTAATACGATGGCTTCAGGCAGT
rh. 54-D	555	-CCTCAACCTCTCGGAGAACCCAGCAGCCCCCTCTGGTCTGGGAACCTAATACGATGGCTTCAGGCAGT
rh. 48-D	555	-CCTCAACCTCTCGGAGAACCCAGCAGCCCCCTCTGGTCTGGGAACCTAATACGATGGCTTCAGGCAGT
rh. 55-D	555	-CCTCAACCTCTCGGAGAACCCAGCAGCCCCCTCTGGTCTGGGAACCTAATACGATGGCTTCAGGCAGT
rh. 62-D	555	-CCTCAACCTCTCGGAGAACCCAGCAGCCCCCTCTGGTCTGGGAACCTAATACGATGGCTTCAGGCAGT

AAV7-D	555	-CCTCAACCTCTCGGAGAAACCTCCAGCAGCGCCCTCTAGTGTGGGATCTGGTACAGTGGTGCAGGCGGT	640	650	660	670	680	690	700
rh. 52-E	555	-CCTCAACCTATCGGAGAAACCTCCAGCAGCGCCCTCTAGTGTGGGATCTGGTACAAATGGCTGCAGGCGGT						
rh. 51-E	555	-CCTCAACCTATCGGAGAAACCTCCAGCAGCGCCCTCTAGTGTGGGATCTGGTACAAATGGCTGCAGGCGGT							
hu. 39-E	555	-CCTCAACCTATCGGAGAAACCTCCAGCAGCGCCCTCTAGTGTGGGATCTGGTACAAATGGCTGCAGGCGGT							
rh. 53-E	555	-CCTCAACCTATCGGAGAAACCTCCAGCAGCGCCCTCTAGTGTGGGATCTGGTACAAATGGCTGCAGGCGGT							
hu. 37-E	555	-CCTCAACCAATCGGAGAAACCTCCAGCAGCGCCCTCTAGTGTGGGATCTGGTACAAATGGCTGCAGGCGGT							
rh. 43-E	552	-CCTCAACCTCTCGGAGAAACCTCCAGCAGCGCCCTCTAGTGTGGGATCTGGTACAAATGGCTGCAGGCGGT							
rh. 50-E	555	-CCTCAACCTATCGGAGAAACCTCCAGCAGCGCCCTCTAGTGTGGGATCTGGTACAAATGGCTGCAGGCGGT							
rh. 49-E	555	-CCTCAACTTATCGGAGAAACCTCCAGCAGCGCCCTCTAGTGTGGGATCTGGTACAAATGGCTGCAGGCGGT							
rh. 61-E	555	-CCTCAACCTATCGGAGAAACCTCCAGCAGCGCCCTCTAGTGTGGGATCTGGTACAAATGGCTGCAGGCGGT							
hu. 41-E	555	-CCTCAACCAATCGGAGAAACCTCCAGCAGCGCCCTCTAGTGTGGGATCTGGTACAAATGGCTGCAGGCGGT							
rh. 64-E	555	-CCTCAACCTATCGGAGAAACCTCCAGCAGCGCCCTCTAGTGTGGGATCTGGTACAAATGGCTGCAGGCGGT							
hu. 42-E	555	-CCTCAACCAATCGGAGAAACCTCCAGCAGCGCCCTCTAGTGTGGGATCTGGTACAAATGGCTGCAGGCGGT							
rh. 57-E	555	-CCTCAACCTATCGGAGAAACCTCCAGCAGCGCCCTCTAGTGTGGGATCTGGTACAAATGGCTGCAGGCGGT							
hu. 40-E	555	-CCTCAACCAATCGGAGAAACCTCCAGCAGCGCCCTCTAGTGTGGGATCTGGTACAAATGGCTGCAGGCGGT							
AAV8-E	555	-CCTCAACCTCTCGGAGAAACCTCCAGCAGCGCCCTCTAGTGTGGGATCTGGTACAAATGGCTGCAGGCGGT							
rh. 58-E	555	-CCTCAACCAATCGGAGAAACCTCCAGCAGCGCCCTCTAGTGTGGGATCTGGTACAAATGGCTGCAGGCGGT							
rh. 40-E	555	-CCTCAACCAATCGGAGAAACCTCCAGCAGCGCCCTCTAGTGTGGGATCTGGTACAAATGGCTGCAGGCGGT							
hu. 67-E	555	-CCTCAACCAATCGGAGAAACCTCCAGCAGCGCCCTCTAGTGTGGGATCTGGTACAAATGGCTGCAGGCGGT							
hu. 17-E	555	-CCTCAACCAATCGGAGAAACCTCCAGCAGCGCCCTCTAGTGTGGGATCTGGTACAAATGGCTGCAGGCGGT							
hu. 6-E	555	-CCTCAACCAATCGGAGAAACCTCCAGCAGCGCCCTCTAGTGTGGGATCTGGTACAAATGGCTGCAGGCGGT							
hu. 66-E	555	-CCTCAACCAATCGGAGAAACCTCCAGCAGCGCCCTCTAGTGTGGGATCTGGTACAAATGGCTGCAGGCGGT							
rh. 38-E	555	-CCTCAACCAATCGGAGAAACCTCCAGCAGCGCCCTCTAGTGTGGGATCTGGTACAAATGGCTGCAGGCGGT							
hu. 32-F	552	-CCTCAACCAATCGGAGAAACCTCCAGCAGCGCCCTCTAGTGTGGGATCTGGTACAAATGGCTGCAGGCGGT							
AAV9/hu	552	-CCTCAACCAATCGGAGAAACCTCCAGCAGCGCCCTCTAGTGTGGGATCTGGTACAAATGGCTGCAGGCGGT							
hu. 31-F	552	-CCTCAACCAATCGGAGAAACCTCCAGCAGCGCCCTCTAGTGTGGGATCTGGTACAAATGGCTGCAGGCGGT							
AAV5	592	GGCGGCCCATTTGGGCGACAATAACCAAGGTGCCGATGGAGTGGGCAATGCCCTCGGAGATGGCAATTGCG						

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AAV3-3 622 GCGCACCAATGGCAGACAAATAACGAGGGTGCCGATGGAGTGGGTAATTCCTCAGGAAATTGGCATTGCG
 AAV4-4 604 GCGGAGCTGCAGTCGAGGCGGACAAGGTGCCGATGGAGTGGGTAATGCCTCGGATGATTGGCATTGCG
 AAV1-A 622 GCGCACCAATGGCAGACAAATAACGAAGGCGCCGACGGAGTGGTAATGCCTCAGGAAATTGGCATTGCG
 hu.46-A 622 GCGCACCAATGGCAGACAAATAACGAAGGCGCCGACGGAGTGGTAATGCCTCAGGAAATTGGCATTGCG
 hu.48-A 622 GCGCACCAATGGCAGACAAATAACGAAGGCGCCGACGGAGTGGTAATGCCTCAGGAAATTGGCATTGCG
 hu.44-A 622 GCGCACCAATGGCAGACAAATAACGAAGGCGCCGACGGAGTGGTAATGCCTCAGGAAATTGGCATTGCG
 hu.43-A 625 GCGCTCCAATGGCAGACAAATAACGAAGGCGCCGACGGAGTGGTAATGCCTCAGGAAATTGGCATTGCG
 AAV6-A 622 GCGCACCAATGGCAGACAAATAACGAAGGCGCCGACGGAGTGGTAATGCCTCAGGAAATTGGCATTGCG
 hu.34-B 622 GCGCACCAATGGCAGACAAATAACGAAGGCGCCGACGGAGTGGTAATGCCTCAGGAAATTGGCATTGCG
 hu.47-B 622 GCGCACCAATGGCAGACAAATAACGAAGGCGCCGACGGAGTGGTAATGCCTCAGGAAATTGGCATTGCG
 hu.29-B 622 GCGCACCAATGGCAGACAAATAACGAAGGCGCCGACGGAGTGGTAATGCCTCAGGAAATTGGCATTGCG
 hu.63-B 622 GCGCACCAATGGCAGACAAATAACGAAGGCGCCGACGGAGTGGTAATGCCTCAGGAAATTGGCATTGCG
 hu.56-B 622 GCGCACCAATGGCAGACAAATAACGAAGGCGCCGACGGAGTGGTAATGCCTCAGGAAATTGGCATTGCG
 hu.45-B 622 GCGCACCAATGGCAGACAAATAACGAAGGCGCCGACGGAGTGGTAATGCCTCAGGAAATTGGCATTGCG
 hu.57-B 619 GCGCACCAATGGCAGACAAATAACGAAGGCGCCGACGGAGTGGTAATGCCTCAGGAAATTGGCATTGCG
 hu.35-B 622 GCGCACCAATGGCAGACAAATAACGAAGGCGCCGACGGAGTGGTAATGCCTCAGGAAATTGGCATTGCG
 hu.58-B 622 GCGCACCAATGGCAGACAAATAACGAAGGCGCCGACGGAGTGGTAATGCCTCAGGAAATTGGCATTGCG
 hu.28-B 622 GCGCACCAATGGCAGACAAATAACGAAGGCGCCGACGGAGTGGTAATGCCTCAGGAAATTGGCATTGCG
 hu.51-B 622 GCGCACCAATGGCAGACAAATAACGAAGGCGCCGACGGAGTGGTAATGCCTCAGGAAATTGGCATTGCG
 hu.19-B 622 GCGCACCAATGGCAGACAAATAACGAAGGCGCCGACGGAGTGGTAATGCCTCAGGAAATTGGCATTGCG
 hu.49-B 622 GCGCACCAATGGCAGACAAATAACGAAGGCGCCGACGGAGTGGTAATGCCTCAGGAAATTGGCATTGCG
 hu.52-B 622 GCGCACCAATGGCAGACAAATAACGAAGGCGCCGACGGAGTGGTAATGCCTCAGGAAATTGGCATTGCG
 hu.13-B 622 GCGCACCAATGGCAGACAAATAACGAAGGCGCCGACGGAGTGGTAATGCCTCAGGAAATTGGCATTGCG
 AAV2-B 622 GCGCACCAATGGCAGACAAATAACGAAGGCGCCGACGGAGTGGTAATGCCTCAGGAAATTGGCATTGCG
 hu.20-B 622 GCGCACCAATGGCAGACAAATAACGAAGGCGCCGACGGAGTGGTAATGCCTCAGGAAATTGGCATTGCG
 hu.24-B 622 GCGCACCAATGGCAGACAAATAACGAAGGCGCCGACGGAGTGGTAATGCCTCAGGAAATTGGCATTGCG
 hu.64-B 622 GCGCACCAATGGCAGACAAATAACGAAGGCGCCGACGGAGTGGTAATGCCTCAGGAAATTGGCATTGCG
 hu.27-B 622 GCGCACCAATGGCAGACAAATAACGAAGGCGCCGACGGAGTGGTAATGCCTCAGGAAATTGGCATTGCG
 hu.21-B 622 GCGCACCAATGGCAGACAAATAACGAAGGCGCCGACGGAGTGGTAATGCCTCAGGAAATTGGCATTGCG
 hu.22-B 622 GCGCACCAATGGCAGACAAATAACGAAGGCGCCGACGGAGTGGTAATGCCTCAGGAAATTGGCATTGCG

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hu. 23-B	622	GGCGACCAATGGCAGACAATAACGAGGGCCGACGGAGTGGGTAATTCCTCGGGAAATTGGCATTGCG
hu. 7-C	622	GGCGACCAATGGCAGACAATAACGAGGGTCCGATGGAGTGGGTAATTCCTCAGGAAATTGGCATTGCG
hu. 61-C	622	GGCGACCAATGGCAGACAATAACGAGGGTCCGATGGAGTGGGTAATTCCTCGGGAAATTGGCATTGCG
rh. 56-C	622	GGCGACCAATGGCAGACAATAACGAGGGTCCGATGGAGTGGGTAATTCCTCAGGAAATTGGCATTGCG
hu. 9-C	622	GGCGACCAATGGCAGACAATAACGAGGGTCCGATGGAGTGGGTAATTCCTCAGGAAATTGGCATTGCG
hu. 54-C	622	GGCGACCAATGGCAGACAATAACGAGGGTCCGATGGAGTGGGTAATTCCTCAGGAAATTGGCATTGCG
hu. 53-C	622	GGCGACCAATGGCAGACAATAACGAGGGTCCGATGGAGTGGGTAATTCCTCAGGAAATTGGCATTGCG
hu. 60-C	622	GGCGACCAATGGCAGACAATAACGAGGGTCCGATGGAGTGGGTAATTCCTCGGGAAATTGGCATTGCG
hu. 55-C	622	GGCGACCAATGGCAGACAATAACGAGGGTCCGATGGAGTGGGTAATTCCTCAGGAAATTGGCATTGCG
hu. 2-C	622	GGCGACCAATGGCAGACAATAACGAGGGTCCGATGGAGTGGGTAATTCCTCAGGAAATTGGCATTGCG
hu. 1-C	622	GGCGACCAATGGCAGACAATAACGAGGGTCCGATGGAGTGGGTAATTCCTCAGGAAATTGGCATTGCG
hu. 18-C	622	GGCGACCAATGGCAGACAATAACGAGGGTCCGATGGAGTGGGTAATTCCTCAGGAAATTGGCATTGCG
hu. 3-C	625	GGCGACCAATGGCAGACAATAACGAGGGTCCGATGGAGTGGGTAATTCCTCAGGAAATTGGCATTGCG
hu. 25-C	622	GGCGACCAATGGCAGACAATAACGAGGGTCCGATGGAGTGGGTAATTCCTCAGGAAATTGGCATTGCG
hu. 15-C	622	GGCGACCAATGGCAGACAATAACGAGGGTCCGATGGAGTGGGTAATTCCTCAGGAAATTGGCATTGCG
hu. 16-C	622	GGCGACCAATGGCAGACAATAACGAGGGTCCGATGGAGTGGGTAATTCCTCAGGAAATTGGCATTGCG
hu. 11-C	622	GGCGACCAATGGCAGACAATAACGAGGGTCCGATGGAGTGGGTAATTCCTCAGGAAATTGGCATTGCG
hu. 10-C	622	GGCGACCAATGGCAGACAATAACGAGGGTCCGATGGAGTGGGTAATTCCTCAGGAAATTGGCATTGCG
hu. 4-C	622	GGCGACCAATGGCAGACAATAACGAGGGTCCGATGGAGTGGGTAATTCCTCAGGAAATTGGCATTGCG
rh. 54-D	625	GGCGTCCAATGGCAGACAATAACGAGGGTCCGATGGAGTGGGTAATTCCTCAGGAAATTGGCATTGCG
rh. 48-D	625	GGCGACCAATGGCTGACAATAACGAGGGTCCGATGGAGTGGGTAATTCCTCAGGAAATTGGCATTGCG
rh. 55-D	625	GGCGACCAATGGCAGACAATAACGAGGGTCCGATGGAGTGGGTAATTCCTCGGGAAATTGGCATTGCG
rh. 62-D	625	GGCGACCAATGGCTGACAATAACGAGGGTCCGATGGAGTGGGTAATTCCTCAGGAAATTGGCATTGCG
AAV7-D	625	GGCGACCAATGGCAGACAATAACGAGGGTCCGATGGAGTGGGTAATTCCTCAGGAAATTGGCATTGCG
rh. 52-E	625	GGCGACCAATGGCAGACAATAACGAGGGTCCGATGGAGTGGGTAATTCCTCGGGAAATTGGCATTGCG
rh. 51-E	625	GGCGGCCAATGGCAGACAATAACGAGGGTCCGATGGAGTGGGTAATTCCTCGGGAAATTGGCATTGCG
hu. 39-E	625	GGCGACCAATGGCAGACAATAACGAGGGTCCGATGGAGTGGGTAATTCCTCGGGAAATTGGCATTGCG
rh. 53-E	625	GGCGACCAATGGCAGACAATAACGAGGGTCCGATGGAGTGGGTAATTCCTCGGGAAATTGGCATTGCG
hu. 37-E	625	GGCGTCCAATGGCAGACAATAACGAGGGTCCGATGGAGTGGGTAATTCCTCAGGAAATTGGCATTGCG
rh. 43-E	622	GGCGACCAATGGCAGACAATAACGAGGGTCCGATGGAGTGGGTAATTCCTCGGGAAATTGGCATTGCG

FIG. 3AA

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rh. 50-E	625	GGCGACCAATGGCAGACAATAACGAAGGTGCCGACGGAGTGGGTAGTTCTCGGGAAATTGGCATTGCG	710	720	730	740	750	760	770
rh. 49-E	625	GGCGACCAATGGCAGACAATAACGAAGGTGCCGACGGAGTGGGTAGTTCTCGGGAAATTGGCATTGCG						
rh. 61-E	625	GGCGACCAATGGCAGACAATAACGAAGGTGCCGACGGAGTGGGTAGTTCTCGGGAAATTGGCATTGCG	ATTCCACGTGGATGGGGACAGAGTCGTACCAAGTCCACCCGAACCTGGGTGCTGCCCAGCTACAACAA						
hu. 41-E	625	GGCGTCCAATGGCAGACAATAACGAAGGTGCCGACGGAGTGGGTAGTTCTCGGGAAATTGGCATTGCG	ATCCCAATGGCTGGCGACAGAGTCATCACACAGCACACAGAACCTGGGCCCTGCCACCTTACAACAA						
rh. 64-E	625	GGCGACCAATGGCAGACAATAACGAAGGTGCCGACGGAGTGGGTAGTTCTCGGGAAATTGGCATTGCG	ATCCACCTGGTCTGAGGGCCACGTCACGACCAACAGCACACAGAACCTGGGTCTTGCCACCTACAACAA						
hu. 42-E	625	GGCGTCCAATGGCAGACAATAACGAAGGTGCCGACGGAGTGGGTAGTTCTCGGGAAATTGGCATTGCG	ATCCACATGGCTGGCGACAGAGTCATCACACAGCACACCGCACCTGGGCCCTTGCCACCTACAATAA						
rh. 57-E	625	GGCGGCCAATGGCAGACAATAACGAAGGTGCCGACGGAGTGGGTAGTTCTCGGGAAATTGGCATTGCG	ATCCACATGGCTGGCGACAGAGTCATCACACAGCACACCGCACCTGGGCCCTTGCCACCTACAATAA						
hu. 40-E	625	GGCGTCCAATGGCAGACAATAACGAAGGTGCCGACGGAGTGGGTAGTTCTCGGGAAATTGGCATTGCG	ATCCACATGGCTGGCGACAGAGTCATCACACAGCACACCGCACCTGGGCCCTTGCCACCTACAATAA						
AAV8-E	625	GGCGACCAATGGCAGACAATAACGAAGGTGCCGACGGAGTGGGTAGTTCTCGGGAAATTGGCATTGCG	ATCCACATGGCTGGCGACAGAGTCATCACACAGCACACCGCACCTGGGCCCTTGCCACCTACAATAA						
rh. 58-E	625	GGCGACCAATGGCAGACAATAACGAAGGTGCCGACGGAGTGGGTAGTTCTCGGGAAATTGGCATTGCG							
rh. 40-E	625	GGCGTCCAATGGCAGACAATAACGAAGGTGCCGACGGAGTGGGTAGTTCTCGGGAAATTGGCATTGCG							
hu. 67-E	625	GGCGTCCAATGGCAGACAATAACGAAGGTGCCGACGGAGTGGGTAGTTCTCGGGAAATTGGCATTGCG							
hu. 17-E	625	GGCGTCCAATGGCAGACAATAACGAAGGTGCCGACGGAGTGGGTAGTTCTCGGGAAATTGGCATTGCG							
hu. 6-E	625	GGCGTCCAATGGCAGACAATAACGAAGGTGCCGACGGAGTGGGTAGTTCTCGGGAAATTGGCATTGCG							
hu. 66-E	625	GGCGTCCAATGGCAGACAATAACGAAGGTGCCGACGGAGTGGGTAGTTCTCGGGAAATTGGCATTGCG							
rh. 38-E	625	GGCGTCCAATGGCAGACAATAACGAAGGTGCCGACGGAGTGGGTAGTTCTCGGGAAATTGGCATTGCG							
hu. 32-F	622	GGCGACCAATGGCAGACAATAACGAAGGTGCCGACGGAGTGGGTAGTTCTCGGGAAATTGGCATTGCG							
AAV9/hu	622	GGCGACCAATGGCAGACAATAACGAAGGTGCCGACGGAGTGGGTAGTTCTCGGGAAATTGGCATTGCG							
hu. 31-F	622	GGCGACCAATGGCAGACAATAACGAAGGTGCCGACGGAGTGGGTAGTTCTCGGGAAATTGGCATTGCG							
AAV5	662							
AAV3-3	692	ATTCCACGTGGATGGGGACAGAGTCGTACCAAGTCCACCCGAACCTGGGTGCTGCCCAGCTACAACAA							
AAV4-4	674	ATCCCAATGGCTGGCGACAGAGTCATCACACAGCACACAGAACCTGGGCCCTGCCACCTTACAACAA							
AAV1-A	692	ATCCACCTGGTCTGAGGGCCACGTCACGACCAACAGCACACAGAACCTGGGTCTTGCCACCTACAACAA							
hu. 46-A	692	ATCCACATGGCTGGCGACAGAGTCATCACACAGCACACCGCACCTGGGCCCTTGCCACCTACAATAA							
hu. 48-A	692	ATCCACATGGCTGGCGACAGAGTCATCACACAGCACACCGCACCTGGGCCCTTGCCACCTACAATAA							
hu. 44-A	692	ATCCACATGGCTGGCGACAGAGTCATCACACAGCACACCGCACCTGGGCCCTTGCCACCTACAATAA							
hu. 43-A	695	ATCCACATGGCTGGCGACAGAGTCATCACACAGCACACCGCACCTGGGCCCTTGCCACCTACAATAA							

FIG. 3AB

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AAV6-A	692	ATTCCACATGGCTGGCGACAGAGTCAATCACCA
hu. 34-B	692	ATTCCACATGGATGGGCGACAGAGTCAATCACCA
hu. 47-B	692	ATTCCACATGGATGGGCGACAGAGTCAATCACCA
hu. 29-B	692	ATTCCACATGGATGGGCGACAGAGTCAATCACCA
hu. 63-B	692	ATTCCACATGGATGGGCGACAGAGTCAATCACCA
hu. 56-B	692	ATTCCACATGGATGGGCGACAGAGTCAATCACCA
hu. 45-B	692	ATTCCACATGGATGGGCGACAGAGTCAATCACCA
hu. 57-B	689	ATTCCACATGGATGGGCGACAGAGTCAATCACCA
hu. 35-B	692	ATTCCACATGGATGGGCGACAGAGTCAATCACCA
hu. 58-B	692	ATTCCACATGGATGGGCGACAGAGTCAATCACCA
hu. 28-B	692	ATTCCACATGGATGGGCGACAGAGTCAATCACCA
hu. 51-B	692	ATTCCACATGGATGGGCGACAGAGTCAATCACCA
hu. 19-B	692	ATTCCACATGGATGGGCGACAGAGTCAATCACCA
hu. 49-B	692	ATTCCACATGGATGGGCGACAGAGTCAATCACCA
hu. 52-B	692	ATTCCACATGGATGGGCGACAGAGTCAATCACCA
hu. 13-B	692	ATTCCACATGGATGGGCGACAGAGTCAATCACCA
AAV2-B	692	ATTCCACATGGATGGGCGACAGAGTCAATCACCA
hu. 20-B	692	ATTCCACATGGATGGGCGACAGAGTCAATCACCA
hu. 24-B	692	ATTCCACATGGATGGGCGACAGAGTCAATCACCA
hu. 64-B	692	ATTCCACATGGATGGGCGACAGAGTCAATCACCA
hu. 27-B	692	ATTCCACATGGATGGGCGACAGAGTCAATCACCA
hu. 21-B	692	ATTCCACATGGATGGGCGACAGAGTCAATCACCA
hu. 22-B	692	ATTCCACATGGATGGGCGACAGAGTCAATCACCA
hu. 23-B	692	ATTCCACATGGATGGGCGACAGAGTCAATCACCA
hu. 7-C	692	ATTCCCAATGGCTGGGCGACAGAGTCAATCACCA
hu. 61-C	692	ATTCCCAATGGCTGGGCGACAGAGTCAATCACCA
rh. 56-C	692	ATTCCCAATGGCTGGGCGACAGAGTCAATCACCA
hu. 9-C	692	ATTCCCAATGGCTGGGCGACAGAGTCAATCACCA
hu. 54-C	692	ATTCCCAATGGCTGGGCGACAGAGTCAATCACCA
hu. 53-C	692	ATTCCCAATGGCTGGGCGACAGAGTCAATCACCA

FIG. 3AC

hu. 60-C	692	ATCCCCAATGGCTGGGCGACAGAGTCATCACCAACAGCAGACCCCGACCTGGGCCCTGCCACCTACAACAA
hu. 55-C	692	ATCCCCAATGGCTGGGCGACAGAGTCATCACCAACAGCAGACCCCGAACCTGGGCCCTGCCACCTACAACAA
hu. 2-C	692	ATCCCCAATGGCTGGGCGACAGAGTCATCACCAACAGCAGACCCCGAACCTGGGCCCTGCCACATACAACAA
hu. 1-C	692	ATCCCCAATGGCTGGGCGACAGAGTCATCACCAACAGCAGACCCCGAACCTGGGCCCTGCCACATACAACAA
hu. 18-C	692	ATCCCCAATGGCTGGGCGACAGAGTCATCACCAACAGCAGACCCCGAACCTGGGCCCTGCCACCTACAACAA
hu. 3-C	695	ATCCCCAATGGCTGGACGACAGAGTCATCGCCACAGCAGACCCCGAACCTGGGCCCTGCCACATACAACAA
hu. 25-C	692	ATCCCCAATGGCTGGGCGACAGAGTCATCACCAACAGCAGACCTCGAACCTGGGCCCTGCCACCTACAACAA
hu. 15-C	692	ATCCCCAATGGCTGGGCGACAGAGTCATCACCAACAGCAGACCCCGAACCTGGGCTCTGCCACCTACAATAA
hu. 16-C	692	ATCCCCAATGGCTGGGCGACAGAGTCATCACCAACAGCAGACCCCGAACCTGGGCTCTGCCACCTACAACAA
hu. 11-C	692	ATCCCCAATGGCTGGGCGACAGAGTCATCACCAACAGCAGACCCCGAACCTGGGCCCTGCCACCTACAACAA
hu. 10-C	692	ATCCCCAATGGCTGGGCGACAGAGTCATCACCAACAGCAGACCCCGAACCTGGGCCCTGCCACCTACAACAA
hu. 4-C	692	ATCCCCAATGGCTGGGCGACAGAGTCATCACCAACAGCAGACCCCGAACCTGGGCCCTGCCACATACAACAA
rh. 54-D	695	ATCCACATGGCTGGGCGACAGAGTCATCACCAACAGCAGACCCCGAACCTGGGCTTTGCCACCTACAACAA
rh. 48-D	695	ATCCACATGGCTGGGCGACAGAGTCATCACCAACAGCAGACCCCGAACCTGGGCTTTGCCACCTACAACAA
rh. 55-D	695	ATCCACATGGCTGGGCGACAGAGTCATCACCAACAGCAGACCCCGAACCTGGGCTTTGCCACCTACAACAA
rh. 62-D	695	ATCCACATGGCTGGGCGACAGAGTCATCACCAACAGCAGACCCCGAACCTGGGCTTTGCCACCTACAACAA
AAV7-D	695	ATCCACATGGCTGGGCGACAGAGTCATTACCAACAGCAGACCCCGAACCTGGGCCCTGCCACCTACAACAA
rh. 52-E	695	ATCCACATGGCTGGGCGACAGAGTCATCACCAACAGCAGACCCCGAACCTGGGCCCTGCCACCTACAACAA
rh. 51-E	695	ATCCACATGGCTGGGCGACAGAGTCATCACCAACAGCAGACCCCGAACCTGGGCCCTGCCACCTACAACAA
hu. 39-E	695	ATCCACATGGCTGGGCGACAGAGTTATCACCAACAGCAGACCCCGAACCTGGGCCCTGCCACCTACAACAA
rh. 53-E	695	ATCCACATGGCTGGGCGACAGAGTCATCACCAACAGCAGACCCCGAACCTGGGCCCTGCCACCTACAACAA
hu. 37-E	695	ATCCACATGGCTGGGCGACAGAGTCATCACCAACAGCAGACCCCGAACCTGGGCCCTGCCACCTACAACAA
rh. 43-E	692	ATCCACATGGCTGGGCGACAGAGTCATCACCAACAGCAGACCCCGAACCTGGGCCCTGCCACCTACAACAA
rh. 50-E	695	ATCCACATGGCTGGGCGACAGAGTCATCACCAACAGCAGACCCCGAACCTGGGCCCTGCCACCTACAACAA
rh. 49-E	695	ATCCACATGGCTGGGCGACAGAGTCATCACCAACAGCAGACCCCGAACCTGGGCCCTGCCACCTACAACAA
rh. 61-E	695	ATCCACATGGCTGGGCGACAGAGTCATCACCAACAGCAGACCCCGAACCTGGGCCCTGCCACCTACAACAA
hu. 41-E	695	ATCCACATGGCTGGGCGACAGAGTCATCACCAACAGCAGACCCCGAACCTGGGCCCTGCCACCTACAACAA
rh. 64-E	695	ATCCACATGGCTGGGCGACAGAGTCATCACCAACAGCAGACCCCGAACCTGGGCCCTGCCACCTACAACAA
hu. 42-E	695	ATCCACATGGCTGGGCGACAGAGTCATCACCAACAGCAGACCCCGAACCTGGGCCCTGCCACCTACAACAA
rh. 57-E	695	ATCCACATGGCTGGGCGACAGAGTCATCACCAACAGCAGACCCCGAACCTGGGCCCTGCCACCTACAACAA

FIG. 3AD

hu. 40-E	695	ATTCACATGGCTGGCGACAGAGTCA	780	790	800	810	820	830	840
AAV8-E	695	ATTCACATGGCTGGCGACAGAGTCA						
rh. 58-E	695	ATTCACATGGCTGGCGACAGAGTCA						
rh. 40-E	695	ATTCACATGGCTGGCGACAGAGTCA						
hu. 67-E	695	ATTCACATGGCTGGCGACAGAGTCA						
hu. 17-E	695	ATTCACATGGCTGGCGACAGAGTCA						
hu. 6-E	695	ATTCACATGGCTGGCGACAGAGTCA						
hu. 66-E	695	ATTCACATGGCTGGCGACAGAGTCA						
rh. 38-E	695	ATTCACATGGCTGGCGACAGAGTCA						
hu. 32-F	692	ATTCACATGGCTGGCGACAGAGTCA						
AAV9/hu	692	ATTCACATGGCTGGCGACAGAGTCA						
hu. 31-F	692	ATTCACATGGCTGGCGACAGAGTCA						
AAV5	732	CCACAGTACCGAGAGATCAAAAGC---						
AAV3-3	762	CCATCTCTACAAGCAAATCTCC-----						
AAV4-4	744	CCACCTCTACAAGCGACTCGGA-----						
AAV1-A	762	CCACCTCTACAAGCAAATCTCCAGT---						
hu. 46-A	762	CCACCTCTACAAGCAAATCTCCAGT---						
hu. 48-A	762	CCACCTCTACAAGCAAATCTCCAGT---						
hu. 44-A	762	CCACCTCTACAAGCAAATCTCCAGT---						
hu. 43-A	765	CCACCTCTACAAGCAAATCTCCAGT---						
AAV6-A	762	CCACCTCTACAAGCAAATCTCCAGT---						
hu. 34-B	762	CCACCTCTACAAGCAAATCTCCAGT---						
hu. 47-B	762	CCACCTCTACAAGCAAATCTCCAGT---						
hu. 29-B	762	CCATCTGTACAAGCAAATATTC-----						
hu. 63-B	762	CCACCTCTACAAGCAGATTTC-----						
hu. 56-B	762	CCACCTCTACAAGCAGATTTC-----						
hu. 45-B	762	CCACCTCTACAAGCAAATTTCC-----						

FIG. 3AE

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hu. 57-B	759	CCACCTCTACAAGCAGATTTC	-----AGCCAATCAGGAGCCAGCAATGACAACCACTACTTTGGCTAC
hu. 35-B	762	CCACCTCTACAACAAATTTC	-----AGCCAATCAGGAGCCCTCGAACGACAATCACTACTTTGGCTAC
hu. 58-B	762	CCATCTGTACAAGCAGATTTC	-----AGCCAATCAGGAGCCAGCAACGACAACCACTACTTTGGCTAC
hu. 28-B	762	CCATCTGTACAAGCAAAATATCC	-----AGCCAGTCTGGAGCCAGCAACGACAATCACTACTTTGGCTAC
hu. 51-B	762	CCACCTCTACAACAAATTTC	-----AGCCAATCAGGAGCCCTCGAACGACAATCACTACTTTGGCTAC
hu. 19-B	762	CCATCTGTACAAGCAAAATCTCC	-----AGCCAGTCTGGAGCCAGCAACGACAACCACTACTTTGGCTAC
hu. 49-B	762	CCATCTGTACAAGCAGATCTCC	-----AGCCAATCAGGAGCCAGCAACGACAACCACTACTTTGGCTAC
hu. 52-B	762	CCACCTCTACAGACAAATTTC	-----AGCCAATCAGGAGCCCTCGAACGACAATCACTACTTTGGCTAC
hu. 13-B	762	CCATCTCTACAAGCAAAATCTCC	-----AGCCAATCAGGAGCCAGCAACGACAACCACTACTTTGGCTAC
AAV2-B	762	CCACCTCTACAACAAATTTC	-----AGCCAATCAGGAGCCCTCGAACGACAATCACTACTTTGGCTAC
hu. 20-B	762	CCATCTGTACAAGCAAAATCTCC	-----AGCCAGTCTGGAGCCAGCAACGACAACCACTACTTTGGCTAC
hu. 24-B	762	CCATCTGTACAAGCAAAATCTCC	-----AGCCAGTCTGGAGCCAGCAACGACAACCACTACTTTGGCTAC
hu. 64-B	762	CCACCTCTACAGGCAGATTTC	-----AGCCAATCAGGAGCCCTCAAAACGACAACCACTACTTTGGCTAC
hu. 27-B	762	CCATCTGTACAAGCAAAATCTCC	-----AGCCAGTCTGGAGCCAGCAACGACAACCACTACTTTGGCTAC
hu. 21-B	762	CCATCTGTACAAGCAAAATCTCC	-----AGCCAGTCTGGAGCCAGCAACGACAACCACTACTTTGGCTAC
hu. 22-B	762	CCATCTGTACAAGCAAAATCTCC	-----AGCCAGTCTGGAGCCAGCAACGACAACCACTACTTTGGCTAC
hu. 23-B	762	CCATCTGTACAAGCAAAATCTCC	-----AGCCAGTCTGGAGCCAGCAACGACAACCACTACTTTGGCTAC
hu. 7-C	762	CCACCTCTACAAGCAAAATCTCA	-----AGCCAATCAGGAGCCCTCAAAACGACAACCACTACTTTGGCTAC
hu. 61-C	762	CCACCTCTACAAGCAAAATCTCC	-----AGCCAATCAGGAGCCCTCAAAACGACAACCACTACTTTGGCTAC
rh. 56-C	762	CCACCTCTACAAGCAAAATCTCA	-----AGCCAATCAGGAGCCCTCAAAACGACAACCACTACTTTGGCTAC
hu. 9-C	762	CCACCTCTACAAGCAAAATCTCC	-----AGCCAATCAGGAGCCCTCGAACGACAACCACTACTTTGGCTGC
hu. 54-C	762	CCACCTTTACAAGCAAAATCTCC	-----AGCCAATCAGGAGCCCTCAAAACGACAACCACTACTTTGGCTAC
hu. 53-C	762	CCACCTTTACAAGCAAAATCTCC	-----AGCCAATCAGGAGCCCTCAAAACGACAACCACTACTTTGGCTAC
hu. 60-C	762	CCACCTCTACAAGCAAAATCTCC	-----AGCCAATCAGGAGCCCTCAAAACGACAACCACTACTTTGGCTAC
hu. 55-C	762	CCACCTTTACAAGCAAAATCTCC	-----AGCCAATCAGGAGCCCTCAAAACGACAACCACTACTTTGGCTAC
hu. 2-C	762	CCACCTCTACAAGCAAAATCTCC	-----AGCCAATCAGGAGCCAGCAACGACAACCACTACTTTGGCTAC
hu. 1-C	762	CCACCTCTACAAGCAAAATCTCC	-----AGCCAATCAGGAGCCAGCAACGACAACCACTACTTTGGCTAC
hu. 18-C	762	CCACCTCTACAAGCAAAATCTCC	-----AGCCAATCAGGAGCCCTCAAAACGACAACCACTACTTTGGCTAC
hu. 3-C	765	CCACCTCTACAAGCAAAATCTCC	-----AGCCAATCAGGAGCCCTGCAACGACAACCACTACTTTGGCTAC
hu. 25-C	762	CCACCTCTACAAGCAAAATCTCC	-----AGCCAATCAGGAGCCCTCAAAACGACAACCACTACTTTGGCTAC

FIG. 3AF

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hu.15-C	762	CCACCTCTACAAGCAAATCTCC-----AGCCAAATCAGGAGCCTCAAACGACAACCACTACTTTGGCTAC
hu.16-C	762	CCACCTCTACAAGCAAATCTCC-----AGCCAAATCAGGAGCCTCAAACGACAACCACTACTTTGGCTAC
hu.11-C	762	CCACCTCTACAAGCAAATCTCC-----AGCCAAATCAGGAGCCTCGAACGACAACCACTACTTTGGCTAC
hu.10-C	762	CCACCTCTACAAGCAAATCTCC-----AGCCAAATCAGGAGCCTCGAACGACAACCACTACTTTGGCTAC
hu.4-C	762	CCACCTCTACAAGCAAATCTCC-----AGCCAAATCAGGAGCCTCGAACGACAACCACTACTTTGGCTAC
rh.54-D	765	CCACCTCTACAAGCAAATCTCCAGT---CAGTCAGCAGGTAGCACCAACGACAACGCTACTTTCGGCTAC
rh.48-D	765	CCACCTCTACAAGCAAATCTCCAGT---CAGTCAGCAGGTAGCACCAACGACAACGCTACTTTCGGCTAC
rh.55-D	765	CCACCTCTACAAGCAAATCTCCAGT---CAGTCAGCAGGTAGCACCAACGACAACGCTACTTTCGGCTAC
rh.62-D	765	CCACCTCTACAAGCAAATCTCCAGT---CAGTCAGCAGGTAGCACCAACGACAACGCTACTTTCGGCTAC
AAV7-D	765	CCACCTCTACAAGCAAATCTCCAGT---GAACTGCAGGTAGTACCAACGACAACCACTACTTTGGCTAC
rh.52-E	765	CCACCTCTACAAGCAAATCTCCAACGGGACCTCGGAGGCAGCACCAACGACAACCACTACTTTGGCTAC
rh.51-E	765	CCACCTCTACAAGCAAATCTCCAACGGGACCTCGGAGGCAGCACCAACGACAACCACTACTTTGGCTAC
hu.39-E	765	CCACCTCTACAAGCAAATCTCCAACGGGACCTCGGAGGCAGCACCAACGACAACCACTACTTTGGCTAC
rh.53-E	765	CCACCTCTACAAGCAAATCTCCAACGGGACCTCGGAGGCAGCACCAACGACAACCACTACTTTGGCTAC
hu.37-E	765	CCACCTCTACAAGCAAATCTCCAACGGGACCTCGGAGGCAGCACCAACGACAACCACTACTTTGGCTAC
rh.43-E	762	CCACCTCTACAAGCAAATCTCCAACGGGACCTCGGAGGCAGCACCAACGACAACCACTACTTTGGCTAC
rh.50-E	765	CCACCTCTACAAGCAAATCTCCAACGGGACCTCGGAGGCAGCACCAACGACAACCACTACTTTGGCTAC
rh.49-E	765	CCACCTCTACAAGCAAATCTCCAACGGGACCTCGGAGGCAGCACCAACGACAACCACTACTTTGGCTAC
rh.61-E	765	CCACCTCTACAAGCAAATCTCCAACGGGACCTCGGAGGCAGCACCAACGACAACCACTACTTTGGCTAC
hu.41-E	765	CCACCTCTACAAGCAAATCTCCAATGGACATCGGAGGAGGAGCACCAACGACAACCACTACTTTGGCTAC
rh.64-E	765	CCACCTCTACAAGCAAATCTCCAACGGGACCTCGGAGGCAGCACCAACGACAACCACTACTTTGGCTAC
hu.42-E	765	CCACCTCTACAAGCAAATCTCCAATGGACATCGGAGGAGGAGCACCAACGACAACCACTACTTTGGCTAC
rh.57-E	765	CCACCTCTACAAGCAAACCTCCAACGGGACCTCGGAGGCAGCACCAACGACAACCACTACTTTGGCTAC
hu.40-E	765	CCACCTCTACAAGCAAATCTCCAATGGACATCGGAGGAGGAGCACCAACGACAACCACTACTTTGGCTAC
AAV8-E	765	CCACCTCTACAAGCAAATCTCCAACGGGACCTCGGAGGCAGCACCAACGACAACCACTACTTTGGCTAC
rh.58-E	765	CCACCTCTACAAGCAAATCTCCAATGGACATCGGAGGAGGAGCACCAACGACAACCACTACTTTGGCTAC
rh.40-E	765	CCACCTCTACAAGCAAATCTCCAATGGACATCGGAGGAGGAGCACCAACGACAACCACTACTTTGGCTAC
hu.67-E	765	CCACCTCTACAAGCAAATCTCCAATGGACATCGGAGGAGGAGCACCAACGACAACCACTACTTTGGCTAC
hu.17-E	765	CCACCTCTACAAGCAAATCTCCAACGGGACATCGGAGGAGGAGCACCAACGACAACCACTACTTTGGCTAC
hu.6-E	765	CCACCTCTACAAGCAAATCTCCAACGGGACATCGGAGGAGGAGCACCAACGACAACCACTACTTTGGCTAC

FIG. 3AG

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hu.66-E	765	CCACCTCTACAAGCAAATATCCAATGGGACATCGGGAGGAAGCACCACGACAACACCTACTTCGGCTAC	850	860	870	880	890	900	910
rh.38-E	765	CCACCTCTACAAGCAAATATCCAATGGGACATCGGGAGGAAGCACCACGACAACACCTACTTCGGCTAC							
hu.32-F	762	TCACCTCTACAAGCAAATCTCCAACAGCACATCTGGAGGATCTTCAAAATGACAACGCCCTACTTCGGCTAC							
AAV9/hu	762	TCACCTCTACAAGCAAATCTCCAACAGCACATCTGGAGGATCTTCAAAATGACAACGCCCTACTTCGGCTAC							
hu.31-F	762	TCACCTCTACAAGCAAATCTCCAACAGCACATCTGGAGGATCTTCAAAATGACAACGCCCTACTTCGGCTAC							
AAV5	799	AGCACCCCTGGGGTACTTTGACTTTAACCCTTCCACAGCCACTGGAGCCCCCGAGACTGGCAAAGAC						
AAV3-3	826	AGCACCCCTGGGGTATTTTGACTTTAACAGATTCCTACTGCCACTTCTCACCACGTGACTGGCAGCGAC							
AAV4-4	799	TCACCCCTGGGGTACTTTGACTTTCAACCGCTTCCACTGCCACTTCTCACCACGTGACTGGCAGCGAC							
AAV1-A	829	AGCACCCCTGGGGTATTTTGACTTTCAACAGATTCCTACTGCCACTTTTCAACACGTGACTGGCAGCGAC							
hu.46-A	829	AGCACCCCTGGGGTATTTTGACTTTCAACAGATTCCTACTGCCACTTTTCAACACGTGACTGGCAGCGAC							
hu.48-A	829	GGCACCCCTGGGGTATTTTGACTTTCAACAGATTCCTACTGCCACTTTTCAACACGTGACTGGCAGCGAC							
hu.44-A	829	AGCACCCCTGGGGTATTTTGACTTTCAACAGATTCCTACTGCCACTTTTCAACACGTGACTGGCAGCGAC							
hu.43-A	832	AGCACCCCTGGGGTATTTTGACTTTCAACAGATTCCTACTGCCACTTTTCAACACGTGACTGGCAGCGAC							
AAV6-A	829	AGCACCCCTGGGGTATTTTGACTTTCAACAGATTCCTACTGCCACTTTTCAACACGTGACTGGCAGCGAC							
hu.34-B	826	AGCACCCCTGGGGTATTTTGACTTTCAACAGATTCCTACTGCCACTTTTCAACACGTGACTGGCAAAGAC							
hu.47-B	826	AGCACCCCTGGGGTATTTTGACTTTCAACAGATTCCTACTGCCACTTTTCAACACGTGACTGGCAAAGAC							
hu.29-B	826	AGCACCCCTGGGGTATTTTGACTTTCAACAGATTCCTACTGCCACTTTTCAACACGTGACTGGCAAAGAC							
hu.63-B	826	AGCACCCCTGGGGTATTTTGACTTTCAACAGATTCCTACTGCCACTTTTCAACACGTGACTGGCAAAGAC							
hu.56-B	826	AGCACCCCTGGGGTATTTTGACTTTCAACAGATTCCTACTGCCACTTTTCAACACGTGACTGGCAAAGAC							
hu.45-B	826	AGCACCCCTGGGGTATTTTGACTTTCAACAGATTCCTACTGCCACTTTTCAACACGTGACTGGCAAAGAC							
hu.57-B	823	AGCACCCCTGGGGTATTTTGACTTTCAACAGATTCCTACTGCCACTTTTCAACACGTGACTGGCAAAGAC							
hu.35-B	826	AGCACCCCTGGGGTATTTTGACTTTCAACAGATTCCTACTGCCACTTTTCAACACGTGACTGGCAAAGAC							
hu.58-B	826	AGCACCCCTGGGGTATTTTGACTTTCAACAGATTCCTACTGCCACTTTTCAACACGTGACTGGCAAAGAC							
hu.28-B	826	AGCACCCCTGGGGTATTTTGACTTTCAACAGATTCCTACTGCCACTTTTCAACACGTGACTGGCAAAGAC							
hu.51-B	826	AGCACCCCTGGGGTATTTTGACTTTCAACAGATTCCTACTGCCACTTTTCAACACGTGACTGGCAAAGAC							
hu.19-B	826	AGCACCCCTGGGGTATTTTGACTTTCAACAGATTCCTACTGCCACTTTTCAACACGTGACTGGCAAAGAC							
hu.49-B	826	AGCACCCCTGGGGTATTTTGACTTTCAACAGATTCCTACTGCCACTTTTCAACACGTGACTGGCAAAGAC							

FIG. 3AH

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hu. 52-B 826 AGCACCCCTTGGGGGTATTTGACTTCAACAGATTCCACTGCCACTTTTCAACACGTGACTGGCAAAGAC
 hu. 13-B 826 AGCACCCCTTGGGGGTATTTGACTTCAACAGATTCCACTGCCACTTTTCAACACGTGACTGGCAAAGAC
 AAV2-B 826 AGCACCCCTTGGGGGTATTTGACTTCAACAGATTCCACTGCCACTTTTCAACACGTGACTGGCAAAGAC
 hu. 20-B 826 AGCACCCCTTGGGGGTATTTGACTTCAACAGATTCCACTGCCACTTTTCAACACGTGACTGGCAAAGAC
 hu. 24-B 826 AGCACCCCTTGGGGGTATTTGACTTCAACAGATTCCACTGCCACTTTTCAACACGTGACTGGCAAAGAC
 hu. 64-B 826 AGCACCCCTTGGGGGTATTTGACTTCAACAGATTCCACTGCCACTTTTCAACACGTGACTGGCAAAGAC
 hu. 27-B 826 AGCACCCCTTGGGGGTATTTGACTTCAACAGATTCCACTGCCACTTTTCAACACGTGACTGGCAAAGAC
 hu. 21-B 826 AGCACCCCTTGGGGGTATTTGACTTCAACAGATTCCACTGCCACTTTTCAACACGTGACTGGCAAAGAC
 hu. 22-B 826 AGCACCCCTTGGGGGTATTTGACTTCAACAGATTCCACTGCCACTTTTCAACACGTGACTGGCAAAGAC
 hu. 23-B 826 AGCACCCCTTGGGGGTATTTGACTTCAACAGATTCCACTGCCACTTTTCAACACGTGACTGGCAAAGAC
 hu. 7-C 826 AGCACCCCTTGGGGGTATTTGACTTCAACAGATTCCACTGCCACTTTTCAACACGTGACTGGCAAAGAC
 hu. 61-C 826 AGCACCCCTTGGGGGTATTTGACTTCAACAGATTCCACTGCCACTTTTCAACACGTGACTGGCAAAGAC
 rh. 56-C 826 AGCACCCCTTGGGGGTATTTGACTTCAACAGATTCCACTGCCACTTTTCAACACGTGACTGGCAAAGAC
 hu. 9-C 826 AGCACCCCTTGGGGGTATTTGACTTCAACAGATTCCACTGCCACTTTTCAACACGTGACTGGCAAAGAC
 hu. 54-C 826 AGCACCCCTTGGGGGTATTTGACTTCAACAGATTCCACTGCCACTTTTCAACACGTGACTGGCAAAGAC
 hu. 53-C 826 AGCACCCCTTGGGGGTATTTGACTTCAACAGATTCCACTGCCACTTTTCAACACGTGACTGGCAAAGAC
 hu. 60-C 826 AGCACCCCTTGGGGGTATTTGACTTCAACAGATTCCACTGCCACTTTTCAACACGTGACTGGCAAAGAC
 hu. 55-C 826 AGCACCCCTTGGGGGTATTTGACTTCAACAGATTCCACTGCCACTTTTCAACACGTGACTGGCAAAGAC
 hu. 2-C 826 AGCACCCCTTGGGGGTATTTGACTTCAACAGATTCCACTGCCACTTTTCAACACGTGACTGGCAAAGAC
 hu. 1-C 826 AGCACCCCTTGGGGGTATTTGACTTCAACAGATTCCACTGCCACTTTTCAACACGTGACTGGCAAAGAC
 hu. 18-C 826 AGCACCCCTTGGGGGTATTTGACTTCAACAGATTCCACTGCCACTTTTCAACACGTGACTGGCAAAGAC
 hu. 3-C 829 AGCACCCCTTGGGGGTATTTGACTTCAACAGATTCCACTGCCACTTTTCAACACGTGACTGGCAAAGAC
 hu. 25-C 826 AGCACCCCTTGGGGGTATTTGACTTCAACAGATTCCACTGCCACTTTTCAACACGTGACTGGCAAAGAC
 hu. 15-C 826 AGCACCCCTTGGGGGTATTTGACTTCAACAGATTCCACTGCCACTTTTCAACACGTGACTGGCAAAGAC
 hu. 16-C 826 AGCACCCCTTGGGGGTATTTGACTTCAACAGATTCCACTGCCACTTTTCAACACGTGACTGGCAAAGAC
 hu. 11-C 826 AGCACCCCTTGGGGGTATTTGACTTCAACAGATTCCACTGCCACTTTTCAACACGTGACTGGCAAAGAC
 hu. 10-C 826 AGCACCCCTTGGGGGTATTTGACTTCAACAGATTCCACTGCCACTTTTCAACACGTGACTGGCAAAGAC
 hu. 4-C 826 AGCACCCCTTGGGGGTATTTGACTTCAACAGATTCCACTGCCACTTTTCAACACGTGACTGGCAAAGAC
 rh. 54-D 832 AGCACCCCTTGGGGGTATTTGACTTCAACAGATTCCACTGCCACTTTTCAACACGTGACTGGCAAAGAC
 rh. 48-D 832 AGCACCCCTTGGGGGTATTTGACTTCAACAGATTCCACTGCCACTTTTCAACACGTGACTGGCAAAGAC

FIG. 3AI

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rh. 55-D	832	AGCACCCCTGGGGGTATTTTGACTTCAACAGATTCCACTGTCACTTCTCACCACGTGACTGGCAGCGGC	920
rh. 62-D	832	AGCACCCCTGGGGGTATTTTGACTTCAACAGATTCCACTGTCACTTCTCACCACGTGACTGGCAGCGGC	930
AAV7-D	832	AGCACCCCTGGGGGTATTTTGACTTCAACAGATTCCACTGCCACTTCTCACCACGTGACTGGCAGCGAC	940
rh. 52-E	835	AGCACCCCTGGGGGTATTTTGACTTCAACAGATTCCACTGCCACTTCTCACCACGTGACTGGCAGCGAC	950
rh. 51-E	835	AGCACCCCTGGGGGTATTTTGACTTCAACAGATTCCACTGCCACTTCTCACCACGTGACTGGCAGCGAC	960
hu. 39-E	835	AGCACCCCTGGGGGTATTTTGACTTCAACAGATTCCACTGCCACTTCTCACCACGTGACTGGCAGCGAC	970
rh. 53-E	835	AGCACCCCTGGGGGTATTTTGACTTCAACAGATTCCACTGCCACTTCTCACCACGTGACTGGCAGCGAC	980
hu. 37-E	835	AGCACCCCTGGGGGTATTTTGACTTCAACAGATTCCACTGCCACTTCTCACCACGTGACTGGCAGCGAC	
rh. 43-E	832	AGCACCCCTGGGGGTATTTTGACTTCAACAGATTCCACTGCCACTTCTCACCACGTGACTGGCAGCGAC	
rh. 50-E	835	AGCACCCCTGGGGGTATTTTGACTTCAACAGATTCCACTGCCACTTCTCACCACGTGACTGGCAGCGAC	
rh. 49-E	835	AGCACCCCTGGGGGTATTTTGACTTCAACAGATTCCACTGCCACTTCTCACCACGTGACTGGCAGCGAC	
rh. 61-E	835	AGCACCCCTGGGGGTATTTTGACTTCAACAGATTCCACTGCCACTTCTCACCACGTGACTGGCAGCGAC	
hu. 41-E	835	AGCACCCCTGGGGGTATTTTGACTTCAACAGATTCCACTGCCACTTCTCACCACGTGACTGGCAGCGAC	
rh. 64-E	835	AGCACCCCTGGGGGTATTTTGACTTCAACAGATTCCACTGCCACTTCTCACCACGTGACTGGCAGCGAC	
hu. 42-E	835	AGCACCCCTGGGGGTATTTTGACTTCAACAGATTCCACTGCCACTTCTCACCACGTGACTGGCAGCGAC	
rh. 57-E	835	AGCACCCCTGGGGGTATTTTGACTTCAACAGATTCCACTGCCACTTCTCACCACGTGACTGGCAGCGAC	
hu. 40-E	835	AGCACCCCTGGGGGTATTTTGACTTCAACAGATTCCACTGCCACTTCTCACCACGTGACTGGCAGCGAC	
AAV8-E	835	AGCACCCCTGGGGGTATTTTGACTTCAACAGATTCCACTGCCACTTCTCACCACGTGACTGGCAGCGAC	
rh. 58-E	835	AGCACCCCTGGGGGTATTTTGACTTCAACAGATTCCACTGCCACTTCTCACCACGTGACTGGCAGCGAC	
rh. 40-E	835	AGCACCCCTGGGGGTATTTTGACTTCAACAGATTCCACTGCCACTTCTCACCACGTGACTGGCAGCGAC	
hu. 67-E	835	AGCACCCCTGGGGGTATTTTGACTTCAACAGATTCCACTGCCACTTCTCACCACGTGACTGGCAGCGAC	
hu. 17-E	835	AGCACCCCTGGGGGTATTTTGACTTCAACAGATTCCACTGCCACTTCTCACCACGTGACTGGCAGCGAC	
hu. 6-E	835	AGCACCCCTGGGGGTATTTTGACTTCAACAGATTCCACTGCCACTTCTCACCACGTGACTGGCAGCGAC	
hu. 66-E	835	AGCACCCCTGGGGGTATTTTGACTTCAACAGATTCCACTGCCACTTCTCACCACGTGACTGGCAGCGAC	
rh. 38-E	835	AGCACCCCTGGGGGTATTTTGACTTCAACAGATTCCACTGCCACTTCTCACCACGTGACTGGCAGCGAC	
hu. 32-F	832	AGCACCCCTGGGGGTATTTTGACTTCAACAGATTCCACTGCCACTTCTCACCACGTGACTGGCAGCGAC	
AAV9/hu	832	AGCACCCCTGGGGGTATTTTGACTTCAACAGATTCCACTGCCACTTCTCACCACGTGACTGGCAGCGAC	
hu. 31-F	832	AGCACCCCTGGGGGTATTTTGACTTCAACAGATTCCACTGCCACTTCTCACCACGTGACTGGCAGCGAC	

FIG. 3A

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AAV5	869	TCATCAACAACAACTAGGGCTTCAGACCCCCGGTCCCTCAGAGTCAAAATCTTCAACATTCAGTCAAAAGA
AAV3-3	896	TCATTACAACAACAACTGGGGATTCCGGCCCAAGAAACTCAGCTTCAAGCTCTTCAACATCCAAGTTAGAGG
AAV4-4	869	TCATCAACAACAACAACTGGGCATCGGACCCCAAGCCATCGGGTCAAAATCTTCAACATCCAGGTCAAGGA
AAV1-A	899	TCATCAACAACAATTTGGGATTCGGGCCCAAGAGACTCAACTTCAAACTCTTCAACATCCAAGTCAAGGA
hu.46-A	899	TCATCAACAACAATTTGGGATTCGGGCCCAAGAGACTCAACTTCAAACTCTTCAACATCCAAGTCAAGGA
hu.48-A	899	TCATCAACAACAATTTGGGATTCGGGCCCAAGAGACTCAACTTCAAACTCTTCAACATCCAAGTCGAGGA
hu.44-A	899	TCATCAACAACAATTTGGGATTCGGGCCCAAGAGACTCAACTTCAAACTCTTCAACATCCAAGTCAAGGA
hu.43-A	902	TCATCAACAACAATTTGGGATTCGGGCCCAAGAGACTCAACTTCAAACTCTTCAACATCCAAGTCAAGGA
AAV6-A	899	TCATCAACAACAATTTGGGATTCGGGCCCAAGAGACTCAACTTCAAGCTCTTCAACATCCAAGTCAAGGA
hu.34-B	896	TCATCAACAACAACCTGGGGATTCGACCCCAAGAGACTCAACTTCAAGCTCTTAAACATTCAGTCAAAGA
hu.47-B	896	TCATCAACAACAACCTGGGGATTCGACCCCAAGAGACTCAACTTCAAGCTCTTAAACATTCAGTCAAAGA
hu.29-B	896	TCATCAACAACAACCTGGGGATTCGACCCCAAGAGACTCAACTTCAAGCTCTTAAACATTCAGTCAAAGA
hu.63-B	896	TCATCAACAACAATTTGGGGATTCGGGCCCAAAAGACTCAACTTCAAGCTCTTAAACATTCAGTCAAAGGA
hu.56-B	896	TCATCAACAACAACCTGGGGATTCGGGCCCAAAAGACTCAACTTCAAGCTGTTAAACATTCAGTCAAAGGA
hu.45-B	896	TCATCAACAACAACCTGGGGATTCGACCCCAAGAGACTCAACTTCAAGCTCTTAAACATTCAGTCAAAGA
hu.57-B	893	TCATCAACAACAACCTGGGGATTCGGGCCCAAAAGACTCAACTTCAAGCTGTTAAACATTCAGTCAAAGGA
hu.35-B	896	TCATCAACAACAACCTGGGGATTCGACCCCAAGAGACTCAACTTCAAGCTCTTAAACATTCAGTCAAAGA
hu.58-B	896	TCATCAACAACAACCTGGGGATTCGGGCCCAAGAGACTCAACTTCAAGCTCTTAAACATTCAGTCAAAGA
hu.28-B	896	TCATCAACAACAACCTGGGGATTCGACCCCAAGAGACTCAACTTCAAGCTCTTAAACATTCAGTCAAAGA
hu.51-B	896	TCATCAACAACAACCTGGGGATTCGACCCCAAGAGACTCAACTTCAAGCTCTTAAACATTCAGTCAAAGA
hu.19-B	896	TCATCAACAACAACCTGGGGATTCGGGCCCAAGAGACTCAGCTTCAAGCTCTTAAACATTCAGTCAAAGA
hu.49-B	896	TCATCAACAACAACCTGGGGATTCGGGCCCAAGAGACTCAACTTCAAGCTCTTAAACATTCAGTCAAAGGA
hu.52-B	896	TCATCAACAACAACCTGGGGATTCGACCCCAAGAGACTCAACTTCAAGCTCTTAAACATTCAGTCAAAGA
hu.13-B	896	TCATCAACAACAACCTGGGGATTCGGGCCCAAGAGACTCAACTTCAAGCTCTTAAACATTCAGTCAAAGA
AAV2-B	896	TCATCAACAACAACCTGGGGATTCGACCCCAAGAGACTCAACTTCAAGCTCTTAAACATTCAGTCAAAGA
hu.20-B	896	TCATCAACAACAACCTGGGGATTCGGGCCCAAGAGACTCAGCTTCAAGCTCTTAAACATTCAGTCAAAGA
hu.24-B	896	TCATCAACAACAACCTGGGGATTCGGGCCCAAGAGACTCAGCTTCAAGCTCTTAAACATTCAGTCAAAGA
hu.64-B	896	TCATCAACAACAATTTGGGGATCCCGGCCCAAAAGACTCAACTTCAAGCTCTTAAACATTCAGTCAAAGA
hu.27-B	896	TCATCAACAACAACCTGGGGATTCGGGCCCAAGAGACTCAGCTTCAAGCTCTTAAACATTCAGTCAAAGA

FIG. 3AK

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hu. 21-B	896	TCATCAACAACAACTGGGGATTCCGGCCCCAAGAGACTCAGCTTCAAGCTCTTTAACAATTCAAGTCAAAGA
hu. 22-B	896	TCATCAACAACAACAACTGGGGATTCCGGCCCCAAGAGACTCAGCTTCAAGCTCTTTAACAATTCAAGTCAAAGA
hu. 23-B	896	TCATCAACAACAACAACTGGGGATTCCGGCCCCAAGAGACTCAGCTTCAAGCTCTTTAACAATTCAAGTCAAAGA
hu. 7-C	896	TCATCAACAACAACAACTGGGGATTCCGACCCCAAGAGACTCAACTTCAAGCTCTTTAACAATTCAAGTCAAAGA
hu. 61-C	896	TCATCAACAACAACAACTGGGGATTCCGACCCCAAGAGACTCAACTTCAAGCTCTTTAACAATTCAAGTCAAAGA
rh. 56-C	896	TCATCAACAACAACAACTGGGGATTCCGACCCCAAGAGACTCAACTTCAAGCTCTTTAACAATTCAAGTCAAAGA
hu. 9-C	896	TCATCAACAACAACAACTGGGGATTCCGACCCCAAGAGACTCAACTTCAAGCTCTTTAACAATTCAAGTCAAAGA
hu. 54-C	896	TCATCAACAACAACAACTGGGGATTCCGACCCCAAGAGACTCAACTTCAAGCTCTTTAACAATTCAAGTCAAAGA
hu. 53-C	896	TCATCAACAACAACAACTGGGGATTCCGACCCCAAGAGACTCAACTTCAAGCTCTTTAACAATTCAAGTCAAAGA
hu. 60-C	896	TCATCAACAACAACAACTGGGGATTCCGACCCCAAGAGACTCAACTTCAAGCTCTTTAACAATTCAAGTCAAAGA
hu. 55-C	896	TCATCAACAACAACAACTGGGGATTCCGACCCCAAGAGACTCAACTTCAAGCTCTTTAACAATTCAAGTCAAAGA
hu. 2-C	896	TCATCAACAACAACAACTGGGGATTCCGGCCCCAAGAGACTCAACTTCAAGCTCTTTAATAATTCAAGTCAAAGA
hu. 1-C	896	TCATCAACAACAACAACTGGGGATTCCGGCCCCAAGAGACTCAACTTCAAGCTCTTTAATAATTCAAGTCAAAGA
hu. 18-C	896	TCATCAACAACAACAACTGGGGATTCCGACCCCAAGAGACTCAACTTCAAGCTCTTTAACAATTCAAGTCAAAGA
hu. 3-C	899	TCATCAACAGCAACTGGGGATTCCGGCCCCAAGAGACTCAACTTCAAGCTCTTTAATAATTCAAGTCAAAGA
hu. 25-C	896	TCATCAACAACAACAACTGGGGATTCCGACCCCAAGAGACTCAACTTCAAGCTCTTTAACAATTCAAGTCAAAGA
hu. 15-C	896	TCATCAACAACAACAACTGGGGATTCCGACCCCAAGAGACTCAACTTCAAGCTCTTTAACAATTCAAGTCAAAGA
hu. 16-C	896	TCATCAACAACAACAACTGGGGATTCCGACCCCAAGAGACTCAACTTCAAGCTCTTTAACAATTCAAGTCAAAGA
hu. 11-C	896	TCATCAACAACAACAACTGGGGATTCCGACCCCAAGAGACTCAACTTCAAGCTCTTTAACAATTCAAGTCAAAGA
hu. 10-C	896	TCATCAACAACAACAACTGGGGATTCCGACCCCAAGAGACTCAACTTCAAGCTCTTTAACAATTCAAGTCAAAGA
hu. 4-C	896	TCGTCAACAACAACCCGGGGATTCCGGCCCCAAGAGACTCAACTTCAAGCTCTTTAATAATTCAAGTCAAAGA
rh. 54-D	902	TCATCAACAACAACAACTGGGGATTCCGGCCCCAAGAGACTCAACTTCAAGCTCTTTAACAATTCAAGTCAAAGA
rh. 48-D	902	TCATCAACAACAACAACTGGGGATTCCGGCCCCAAGAGACTCAACTTCAAGCTCTTTAACAATTCAAGTCAAAGA
rh. 55-D	902	TCATCAACAACAACAACTGGGGATTCCGGCCCCAAGAGACTCAACTTCAAGCTCTTTAACAATTCAAGTCAAAGA
rh. 62-D	902	TCATCAACAACAACAACTGGGGATTCCGGCCCCAAGAGACTCAACTTCAAGCTCTTTAACAATTCAAGTCAAAGA
AAV7-D	902	TCATCAACAACAACAACTGGGGATTCCGGCCCCAAGAGACTCAACTTCAAGCTCTTTAACAATTCAAGTCAAAGA
rh. 52-E	905	TCATCAACAACAACAACTGGGGATTCCGGCCCCAAGAGACTCAACTTCAAGCTCTTTAACAATTCAAGTCAAAGA
rh. 51-E	905	TCATCAACAACAACAACTGGGGATTCCGGCCCCAAGAGACTCAACTTCAAGCTCTTTAACAATTCAAGTCAAAGA
hu. 39-E	905	TCATCAACAACAACAACTGGGGATTCCGGCCCCAAGAGACTCAACTTCAAGCTCTTTAACAATTCAAGTCAAAGA
rh. 53-E	905	TCATCAACAACAACAACTGGGGATTCCGGCCCCAAGAGACTCAACTTCAAGCTCTTTAACAATTCAAGTCAAAGA

FIG. 3AL

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hu. 37-E	905	TCATCAACAACAAC	TGGGATTC	CGGCCAAAAAGACT	CAGCTT	CAAGCTCTT	CAACATCC	CAGGTCAAGGA	990	1000	1010	1020	1030	1040	1050
rh. 43-E	902	TCATCAACAACAAC	TGGGATTC	CGGCCCAAGAGACT	CAGCTT	CAAGCTCTT	CAACATCC	CAGGTCAAGGA						
rh. 50-E	905	TCATCAACAACAAC	TGGGATTC	CGGCCCAAGAGACT	CAGCTT	CAAGCTCTT	CAACATCC	CAGGTCAAGGA	GGTACGGTGCAGGACTCC	ACCAACCAATCGCCCAACAA	CCCTCACCTCC	ACCGTCC	CAAGTGT	TACGGAC	
rh. 49-E	905	TCATCAACAACAAC	TGGGATTC	CGGCCCAAGAGACT	CAGCTT	CAAGCTCTT	CAACATCC	CAGGTCAAGGA	GGTACGCGAAGACGATGG	CACGACTATTG	CCCAATAACCTTACC	CAGCAGGT	CAAGTGT	TACGGAC	
rh. 61-E	905	CCATCAACAACAAC	TGGGATTC	CGGCCCAAGAGACT	CAGCTT	CAAGCTCTT	CAACATCC	CAGGTCAAGGA	GGTACGACGTCGAACGG	CGGAGACAACGGTGGCTA	ATAACCTTACC	CAGCAGGT	TCAGATCTT	TGCGGAC	
hu. 41-E	905	TCATCAACAACAAC	TGGGATTC	CGGCCCAAAAAGACT	CAGCTT	CAAGCTCTT	CAACATCC	CAGGTCAAGGA	GGTACGACGAATGATGG	CGTCACAACCAATCGCTA	ATAACCTTACC	CAGCAGGT	TCAGATCTT	TCGCGAC	
rh. 64-E	905	TCATCAACAACAAC	TGGGATTC	CGGCCCAAGAGACT	CAGCTT	CAAGCTCTT	CAACATCC	CAGGTCAAGGA	GGTACGACGAATGATGG	CGTCACAACCAATCGCTA	ATAACCTTACC	CAGCAGGT	TCAGATCTT	TCGCGAC	
hu. 42-E	905	TCATCAACAACAAC	TGGGATTC	CGGCCCAAAAAGACT	CAGCTT	CAAGCTCTT	CAACATCC	CAGGTCAAGGA	GGTACGACGAATGATGG	CGTCACAACCAATCGCTA	ATAACCTTACC	CAGCAGGT	TCAGATCTT	TCGCGAC	
rh. 57-E	905	TCATCAACAACAAC	TGGGATTC	CGGCCCAAGAGACT	CAGCTT	CAAGCTCTT	CAACATCC	CAGGTCAAGGA	GGTACGACGAATGATGG	CGTCACAACCAATCGCTA	ATAACCTTACC	CAGCAGGT	TCAGATCTT	TCGCGAC	
hu. 40-E	905	TCATCAACAACAAC	TGGGATTC	CGGCCCAAAAAGACT	CAGCTT	CAAGCTCTT	CAACATCC	CAGGTCAAGGA	GGTACGACGAATGATGG	CGTCACAACCAATCGCTA	ATAACCTTACC	CAGCAGGT	TCAGATCTT	TCGCGAC	
AAV8-E	905	TCATCAACAACAAC	TGGGATTC	CGGCCCAAGAGACT	CAGCTT	CAAGCTCTT	CAACATCC	CAGGTCAAGGA	GGTACGACGAATGATGG	CGTCACAACCAATCGCTA	ATAACCTTACC	CAGCAGGT	TCAGATCTT	TCGCGAC	
rh. 58-E	905	TCATCAACAACAAC	TGGGATTC	CGGCCCAAGAGACT	CAGCTT	CAAGCTCTT	CAACATCC	CAGGTCAAGGA	GGTACGACGAATGATGG	CGTCACAACCAATCGCTA	ATAACCTTACC	CAGCAGGT	TCAGATCTT	TCGCGAC	
rh. 40-E	905	TCATCAACAACAAC	TGGGATTC	CGGCCCAAAAAGACT	CAGCTT	CAAGCTCTT	CAACATCC	CAGGTCAAGGA	GGTACGACGAATGATGG	CGTCACAACCAATCGCTA	ATAACCTTACC	CAGCAGGT	TCAGATCTT	TCGCGAC	
hu. 67-E	905	TCATCAACAACAAC	TGGGATTC	CGGCCCAAAAAGACT	CAGCTT	CAAGCTCTT	CAACATCC	CAGGTCAAGGA	GGTACGACGAATGATGG	CGTCACAACCAATCGCTA	ATAACCTTACC	CAGCAGGT	TCAGATCTT	TCGCGAC	
hu. 17-E	905	TCATCAACAACAAC	TGGGATTC	CGGCCCAAGAGACT	CAGCTT	CAAGCTCTT	CAACATCC	CAGGTCAAGGA	GGTACGACGAATGATGG	CGTCACAACCAATCGCTA	ATAACCTTACC	CAGCAGGT	TCAGATCTT	TCGCGAC	
hu. 6-E	905	TCATCAACAACAAC	TGGGATTC	CGGCCCAAGAGACT	CAGCTT	CAAGCTCTT	CAACATCC	CAGGTCAAGGA	GGTACGACGAATGATGG	CGTCACAACCAATCGCTA	ATAACCTTACC	CAGCAGGT	TCAGATCTT	TCGCGAC	
hu. 66-E	905	TCATCAACAACAAC	TGGGATTC	CGGCCCAAAAAGACT	CAGCTT	CAAGCTCTT	CAACATCC	CAGGTCAAGGA	GGTACGACGAATGATGG	CGTCACAACCAATCGCTA	ATAACCTTACC	CAGCAGGT	TCAGATCTT	TCGCGAC	
rh. 38-E	905	TCATCAACAACAAC	TGGGATTC	CGGCCCAAAAAGACT	CAGCTT	CAAGCTCTT	CAACATCC	CAGGTCAAGGA	GGTACGACGAATGATGG	CGTCACAACCAATCGCTA	ATAACCTTACC	CAGCAGGT	TCAGATCTT	TCGCGAC	
hu. 32-F	902	TCATCAACAACAAC	TGGGATTC	CGGCCCAAGCAGCT	CAACTT	CAAGCTCTT	CAACATCC	CAGGTCAAGGA	GGTACGACGAATGATGG	CGTCACAACCAATCGCTA	ATAACCTTACC	CAGCAGGT	TCAGATCTT	TCGCGAC	
AAV9/hu	902	TCATCAACAACAAC	TGGGATTC	CGGCCCAAGCAGCT	CAACTT	CAAGCTCTT	CAACATCC	CAGGTCAAGGA	GGTACGACGAATGATGG	CGTCACAACCAATCGCTA	ATAACCTTACC	CAGCAGGT	TCAGATCTT	TCGCGAC	
hu. 31-F	902	TCATCAACAACAAC	TGGGATTC	CGGCCCAAGCAGCT	CAACTT	CAAGCTCTT	CAACATCC	CAGGTCAAGGA	GGTACGACGAATGATGG	CGTCACAACCAATCGCTA	ATAACCTTACC	CAGCAGGT	TCAGATCTT	TCGCGAC	
AAV5	939	GGTACGGTGCAGGACTCC	ACCAACCAATCGCCCAACAA	CCCTCACCTCC	ACCGTCC	CAAGTGT	TACGGAC							
AAV3-3	966	GGTACGCGAAGACGATGG	CACGACTATTG	CCCAATAACCTTACC	CAGCAGGT	CAAGTGT	TACGGAC		GGTACGGTGCAGGACTCC	ACCAACCAATCGCCCAACAA	CCCTCACCTCC	ACCGTCC	CAAGTGT	TACGGAC	
AAV4-4	939	GGTACGACGTCGAACGG	CGGAGACAACGGTGGCTA	ATAACCTTACC	CAGCAGGT	TCAGATCTT	TGCGGAC		GGTACGCGAAGACGATGG	CACGACTATTG	CCCAATAACCTTACC	CAGCAGGT	CAAGTGT	TACGGAC	
AAV1-A	969	GGTACGACGAATGATGG	CGTCACAACCAATCGCTA	ATAACCTTACC	CAGCAGGT	TCAGATCTT	TCGCGAC		GGTACGACGTCGAACGG	CGGAGACAACGGTGGCTA	ATAACCTTACC	CAGCAGGT	TCAGATCTT	TGCGGAC	
hu. 46-A	969	GGTACGACGAATGATGG	CGTCACAACCAATCGCTA	ATAACCTTACC	CAGCAGGT	TCAGATCTT	TCGCGAC		GGTACGACGAATGATGG	CGTCACAACCAATCGCTA	ATAACCTTACC	CAGCAGGT	TCAGATCTT	TCGCGAC	
hu. 48-A	969	GGTACGACGAATGATGG	CGTCACAACCAATCGCTA	ATAACCTTACC	CAGCAGGT	TCAGATCTT	TCGCGAC		GGTACGACGAATGATGG	CGTCACAACCAATCGCTA	ATAACCTTACC	CAGCAGGT	TCAGATCTT	TCGCGAC	

FIG. 3AM

hu. 44-A	969	GGTCACGACGAATGATGGCGTCACAACCATCGCTAATAAACCTTACCAGCACGGTTCAGGTCTTCTCTCGGAC
hu. 43-A	972	GGTCACGACGAATGATGGCGTCACAACCATCGCTAATAAACCTTACCAGCACGGTTCAGGTCTTCTCTCGGAC
AAV6-A	969	GGTCACGACGAATGATGGCGTCACGACCATCGCTAATAAACCTTACCAGCACGGTTCAGGTCTTCTCTCGGAC
hu. 34-B	966	GGTCACGACGAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 47-B	966	GGTCACGACGAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 29-B	966	GGTCACGACGAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 63-B	966	GGTCACGACGAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 56-B	966	GGTCACGACGAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 45-B	966	GGTCACGACGAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 57-B	963	GGTCACGACGAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 35-B	966	GGTCACGACGAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 58-B	966	GGTCACGACGAATGATGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 28-B	966	GGTCACGACGAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 51-B	966	GGTCACGACGAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 19-B	966	GGTCACGACGAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 49-B	966	GGTCACGACGAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 52-B	966	GGTCACGACGAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 13-B	966	GGTCACGACGAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
AAV2-B	966	GGTCACGACGAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 20-B	966	GGTCACGACGAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 24-B	966	GGTCACGACGAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 64-B	966	GGTCACGACGAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 27-B	966	GGTCACGACGAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 21-B	966	GGTCACGACGAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 22-B	966	GGTCACGACGAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 23-B	966	GGTCACGACGAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 7-C	966	GGTCACGACGAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 61-C	966	GGTCACGACGAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
rh. 56-C	966	GGTCACGACGAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 9-C	966	GGTCACGACGAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC

hu. 54-C	966	GGTCACGCAGAAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 53-C	966	GGTCACGCAGAAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 60-C	966	GGTCACGCAGAAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 55-C	966	GGTCACGCAGAAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 2-C	966	GGTCACGCAGAAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 1-C	966	GGTCACGCAGAAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 18-C	966	GGTCACGCAGAAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 3-C	969	GGTCACGCAGAAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 25-C	966	GGTCACGCAGAAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 15-C	966	GGTCACGCAGAAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 16-C	966	GGTCACGCAGAAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 11-C	966	GGTCACGCAGAAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 10-C	966	GGTCACGCAGAAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
hu. 4-C	966	GGTCACGCAGAAATGACGGTACGACGACGATTGCCAATAAACCTTACCAGCACGGTTCAGGTGTTTACTGAC
rh. 54-D	972	GGTCACGCAGAAATGACGGGTACGACGACCATCGCTAATAAACCTTACCAGCACGGTTCAGGTGTTTCTCGGAC
rh. 48-D	972	GGTCACAAACGAATGACGGGTACGACGACCATCGCCAAATAAACCTTACCAGCACGGTTCAGGTGTTTCTCGGAC
rh. 55-D	972	GGTCACAAACGAATGACGGGTACGACGACCATCGCCAAATAAACCTTACCAGCACGGTTCAGGTGTTTCTCGGAC
rh. 62-D	972	GGTCACAAACGGGTACGGGTACGACGACCATCGCCAAATAAACCTTACCAGCACGGTTCAGGTGTTTCTCGGAC
AAV7-D	972	GGTCACGACGAATGACGGGTACGACGACCATCGCTAATAAACCTTACCAGCACGATTTCAGGTATTCCTCGGAC
rh. 52-E	975	GGTCACGCAGAAATGAAGGCCAAGACCATCGCCAAATAGCCTCACCCAGCACCATCCAGGTGTTTACGGAC
rh. 51-E	975	GGTCACGCAGAAATGAAGGCCAAGACCATCGCCAAATAAACCTCACCCAGCACCATCCAGGTGTTTACGGAC
hu. 39-E	975	GGTCACGCAGAAATGAAGGCCAAGACCATCGCCAAATAAACCTCGCCAGCACCATCCAGGTGTTTACGGAC
rh. 53-E	975	GGTCACGCAGAAATGAAGGCCAAGACCATCGCCAAATAAACCTCACCCAGCACCATCCAGGTGTTTACGGAC
hu. 37-E	975	GGTCACGCAGAAATGAAGGCCAAGACCATCGCCAAATAAACCTTACCAGCACGATTTCAGGTATTCACGGAC
rh. 43-E	972	GGTCACGCAGAAATGAAGGCCAAGACCATCGCCAAATAAACCTCACCCAGCACCATCCAGGTGTTTACGGAC
rh. 50-E	975	GGTCACGCAGAAATGAAGGCCAAGACCATCGCCAAATAAACCTCACCCAGCACCATCCAGGTGTTTACGGAC
rh. 49-E	975	GGTCACGCAGAAATGAAGGCCAAGACCATCGCCAAATAAACCTCACCCAGCACCATCCAGGTGTTTACGGAC
rh. 61-E	975	GGTCACGCAGAAATGAAGGCCAAGACCATCGCCAAATAAACCTCACCCAGCACCATCCAGGTGTTTACGGAC
hu. 41-E	975	GGTCACGCAGAAATGAAGGCCAAGACCGTCGCCAAATAAACCTTACCAGCACGATTTCAGGTATTCACGGAC
rh. 64-E	975	GGTCACGCAGAAATGAAGGCCAAGACCATCGCCAAATAAACCTCACCCAGCACCATCCAGGTGTTTACGGAC

FIG. 3AO

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hu.42-E	975	GGTCACGCAGAAATGAAGGCACCAAGACCATCGCCCAATAACCTTACCAGCACGATTTCAGGTATTACGGAC	1060	1070	1080	1090	1100	1110	1120
rh.57-E	975	GGTCACGCAGAAATGAAGGCACCAAGACCATCGCCCAATAACCTTACCAGCACGATTTCAGGTGTTTACGGAC							
hu.40-E	975	GGTCACGCAGAAATGAAGGCACCAAGACCATCGCCCAATAACCTTACCAGCACGATTTCAGGTATTACGGAC							
AAV8-E	975	GGTCACGCAGAAATGAAGGCACCAAGACCATCGCCCAATAACCTTACCAGCACGATTTCAGGTGTTTACGGAC							
rh.58-E	975	GGTCACGCAGAAATGAAGGCACCAAGACCATCGCCCAATAACCTTACCAGCACGATTTCAGGTGTTTACGGAC							
rh.40-E	975	GGTCACGCAGAAATGAAGGCACCAAGACCATCGCCCAATAACCTTACCAGCACGATTTCAGGTATTACGGAC							
hu.67-E	975	GGTCACGCAGAAATGAAGGCACCAAGACCATCGCCCAATAACCTTACCAGCACGATTTCAGGTATTACGGAC							
hu.17-E	975	GGTCACGCAGAAATGAAGGCACCAAGACCATCGCCCAATAACCTTACCAGCACGATTTCAGGTCTTTACGGAC							
hu.6-E	975	GGTCACGCAGAAATGAAGGCACCAAGACCATCGCCCAATAACCTTACCAGCACGATTTCAGGTCTTTACGGAC							
hu.66-E	975	GGTCACGCAGAAATGAAGGCACCAAGACCATCGCCCAATAACCTTACCAGCACGATTTCAGGTATTACGGAC							
rh.38-E	975	GGTCACGCAGAAATGAAGGCACCAAGACCATCGCCCAATAACCTTACCAGCACGATTTCAGGTATTACGGAC							
hu.32-F	972	GGTTACGGACAACAATGGAGTCAAGACCATCGCCCAATAACCTTACCAGCACGATTTCAGGTCTTCACGGAC							
AAV9/hu	972	GGTTACGGACAACAATGGAGTCAAGACCATCGCCCAATAACCTTACCAGCACGATTTCAGGTCTTCACGGAC							
hu.31-F	972	GGTTACGGACAACAATGGAGTCAAGACCATCGCCCAATAACCTTACCAGCACGATTTCAGGTCTTCACGGAC							
AAV5	1009	GACGACTACCAGCTGCCCCACGTCTGTCGGCAACGGGACCGAGGGATGCCTGCCGGCCTTCCTCCGCGCAGG							
AAV3-3	1036	TCGGAGTATCAGCTCCCGTACGTGCTCGGGTCGGCGCACCAAGGTGTCTCCCGCCGTTTCCAGCGGACG							
AAV4-4	1009	TCGTCTGTACGAACCTGCCGTACGTGATGGATCGGGTCAAGAGGGCAGCCTGCCCTCTTCCCAACGACG							
AAV1-A	1039	TCGGAGTACCAGCTTCCGTACGTCTCGGCTCTGCGCACCAAGGGTGCCTCCCTCCGTTCCCGGCGGACG							
hu.46-A	1039	TCGGAGTACCAGCTTCCGTACGTCTCGGCTCTGCGCACCAAGGGTGCCTCCCTCCGTTCCCGGCGGACG							
hu.48-A	1039	TCGGAGTACCAGCTTCCGTACGTCTCGGCTCTGCGCACCAAGGGTGCCTCCCTCCGTTCCCGGCGGACG							
hu.44-A	1039	TCGGAGTACCAGCTTCCGTACGTCTCGGCTCTGCGCACCAAGGGTGCCTCCCTCCGTTCCCGGCGGACG							
hu.43-A	1042	TCGGAGTACCAGCTTCCGTACGTCTCGGCTCTGCGCACCAAGGGTGCCTCCCTCCGTTCCCGGCGGACG							
AAV6-A	1039	TCGGAGTACCAGTTGCCGTACGTCTCGGCTCTGCGCACCAAGGGTGCCTCCCTCCGTTCCCGGCGGACG							
hu.34-B	1036	TCGGAGTACCAGCTCCCGTACGTCTCGGCTCGGCGCATCAAGGATGCCCTCCCGCCGTTCCACAGACAGC							
hu.47-B	1036	TCGGAGTACCAGCTCCCGTACGTCTCGGCTCGGCGCATCAAGGATGCCCTCCCGCCGTTCCACAGACAGC							
hu.29-B	1036	TCGGAGTACCAGCTCCCGTACGTCTCGGCTCGGCGCATCAAGGATGCCCTCCCGCCGTTCCACAGACAGC							
hu.63-B	1036	TCGGAGTACCAGCTCCCGTACGTCTCGGCTCGGCGCATCAAGGATGCCCTCCCGCCGTTCCACAGACAGC							

FIG. 3AP

hu. 56-B 1036 TTGGAGTACCAGCTCCCGTACGTCTCGGCTCGGCGCATCAAGGATGCCTCCCGCCGTTCCAGCAGACG
 hu. 45-B 1036 TCGGGTACCAGTCCCGTACGTCTCGGCTCGGCGCATCAAGGATGCCTCCCGCCGTTCCAGCAGACG
 hu. 57-B 1033 TTGGAGTACCAGTCCCGTACGTCTCGGCTCGGCGCATCAAGGATGCCTCCCGCCGTTCCAGCAGACG
 hu. 35-B 1036 TCGGAGTACCAGTCCCGTACGTCTCGGCTCGGCGCATCAAGGATGCCTCCCGCCGTTCCAGCAGACG
 hu. 58-B 1036 TCGGAGTACCAGTCCCGTACGTCTCGGCTCGGCGCATCAAGGATGCCTCCCGCCGTTCCAGCAGACG
 hu. 28-B 1036 TCGGAGTACCAGTCCCGTACGTCTCGGCTCGGCGCATCAAGGATGCCTCCCGCCGTTCCAGCAGACG
 hu. 51-B 1036 TCGGAGTACCAGTCCCGTACGTCTCGGCTCGGCGCATCAAGGATGCCTCCCGCCGTTCCAGCAGACG
 hu. 19-B 1036 TCGGAGTACCAGTCCCGTACGTCTCGGCTCGGCGCATCAAGGATGCCTCCCGCCGTTCCAGCAGACG
 hu. 49-B 1036 TCGGAGTACCAGTCCCGTACGTCTCGGCTCGGCGCATCAAGGATGCCTCCCGCCGTTCCAGCAGACG
 hu. 52-B 1036 TCGGAGTACCAGTCCCGTACGTCTCGGCTCGGCGCATCAAGGATGCCTCCCGCCGTTCCAGCAGACG
 hu. 13-B 1036 TCGGAGTACCAGTCCCGTACGTCTCGGCTCGGCGCATCAAGGATGCCTCCCGCCGTTCCAGCAGACG
 AAV2-B 1036 TCGGAGTACCAGTCCCGTACGTCTCGGCTCGGCGCATCAAGGATGCCTCCCGCCGTTCCAGCAGACG
 hu. 20-B 1036 TCGGAGTACCAGTCCCGTACGTCTCGGCTCGGCGCATCAAGGATGCCTCCCGCCGTTCCAGCAGACG
 hu. 24-B 1036 TCGGAGTACCAGTCCCGTACGTCTCGGCTCGGCGCATCAAGGATGCCTCCCGCCGTTCCAGCAGACG
 hu. 64-B 1036 TCGGAGTACCAGTCCCGTACGTCTCGGCTCGGCGCATCAAGGATGCCTCCCGCCGTTCCAGCAGACG
 hu. 27-B 1036 TCGGGTACCAGTCCCGTACGTCTCGGCTCGGCGCATCAAGGATGCCTCCCGCCGTTCCAGCAGACG
 hu. 21-B 1036 TCGGAGTACCAGTCCCGTACGTCTCGGCTCGGCGCATCAAGGATGCCTCCCGCCGTTCCAGCAGACG
 hu. 22-B 1036 TCGGAGTACCAGTCCCGTACGTCTCGGCTCGGCGCATCAAGGATGCCTCCCGCCGTTCCAGCAGACG
 hu. 23-B 1036 TCGGAGTACCAGTCCCGTACGTCTCGGCTCGGCGCATCAAGGATGCCTCCCGCCGTTCCAGCAGACG
 hu. 7-C 1036 TCGGAGTACCAGTCCCGTACGTCTCGGCTCGGCGCATCAAGGATGCCTCCCGCCGTTCCAGCAGACG
 hu. 61-C 1036 TCGGAGTACCAGTCCCGTACGTCTCGGCTCGGCGCATCAAGGATGCCTCCCGCCGTTCCAGCAGACG
 rh. 56-C 1036 TCGGAGTACCAGTCCCGTACGTCTCGGCTCGGCGCATCAAGGATGCCTCCCGCCGTTCCAGCAGACG
 hu. 9-C 1036 TCGGAGTACCAGTCCCGTACGTCTCGGCTCGGCGCATCAAGGATGCCTCCCGCCGTTCCAGCAGACG
 hu. 54-C 1036 TCGGAGTACCAGTCCCGTACGTCTCGGCTCGGCGCATCAAGGATGCCTCCCGCCGTTCCAGCAGACG
 hu. 53-C 1036 TCGGAGTACCAGTCCCGTACGTCTCGGCTCGGCGCATCAAGGATGCCTCCCGCCGTTCCAGCAGACG
 hu. 60-C 1036 TCGGAGTACCAGTCCCGTACGTCTCGGCTCGGCGCATCAAGGATGCCTCCCGCCGTTCCAGCAGACG
 hu. 55-C 1036 TCGGAGTACCAGTCCCGTACGTCTCGGCTCGGCGCATCAAGGATGCCTCCCGCCGTTCCAGCAGACG
 hu. 2-C 1036 TCGGAGTACCAGTCCCGTACGTCTCGGCTCGGCGCATCAAGGATGCCTCCCGCCGTTCCAGCAGACG
 hu. 1-C 1036 TCGGAGTACCAGTCCCGTACGTCTCGGCTCGGCGCATCAAGGATGCCTCCCGCCGTTCCAGCAGACG
 hu. 18-C 1036 TCGGAGTACCAGTCCCGTACGTCTCGGCTCGGCGCATCAAGGATGCCTCCCGCCGTTCCAGCAGACG

FIG. 3AQ

hu. 3-C 1039 TCGGAGTACCAGCTCCCGTACGTCCCGGGCTCGGGCGCATCAAGGATGCCTCCCGCCGTTTCCAGCGGACG
 hu. 25-C 1036 TCGGAGTACCAGCTCCCGTACGTCTGGCTCGGCGCATCAAGGATGCCTCCCGCCGTTTCCAGCGGACG
 hu. 15-C 1036 TCGGGGTACCAGCTCCCGTACGTCTGGCTTGGCGCATCAAGGATGCCTCCCGCCGTTTCCAGCAGACG
 hu. 16-C 1036 TCGGAGTACCAGCTCCCGTACGTCTGGCTCGGCGCATCAAGGATGCCTCCCGCCGTTTCCAGCAGACG
 hu. 11-C 1036 TCGGAGTACCAGCTCCCGTACGTCTGGCTCGGCGCATCAAGGATGCCTCCCGCCGTTTCCAGCGGACG
 hu. 10-C 1036 TCGGAGTACCAGCTCCCGTACGTCTGGCTCGGCGCATCAAGGATGCCTCCCGCCGTTTCCAGCGGACG
 hu. 4-C 1036 TCGGAGTACCAGCTCCCGTACGTCTGGCTCGGCGCATCAAGGATGCCTCCCGCCGTTTCCAGCGGACG
 rh. 54-D 1042 TCGGAGTACCAGTGCCGTACGTCTGGCTTGTCCACACAGGGTGCTGCTCCGTTCCCGGGGACG
 rh. 48-D 1042 TCGGAATACCAGTGCCGTACGTCTGGCTTCGACACACAGGGTGCTGCTCCGTTCCCGGGGACG
 rh. 55-D 1042 TCGGAATACCAGTGCCGTACGTCTGGCTTCGACACACAGGGTGCTGCTCCGTTCCCGGGGACG
 rh. 62-D 1042 TCGGAATACCAGTGCCGTACGTCTGGCTTCGACACACAGGGTGCTGCTCCGTTCCCGGGGACG
 AAV7-D 1042 TCGGAATACCAGTGCCGTACGTCTGGCTTCGACACACAGGGTGCTGCTCCGTTCCCGGGGACG
 rh. 52-E 1045 TCGGAATACCAGTGCCGTACGTCTGGCTTCGACACACAGGGTGCTGCTCCGTTCCCGGGGACG
 rh. 51-E 1045 TCGGAATACCAGTGCCGTACGTCTGGCTTCGACACACAGGGTGCTGCTCCGTTCCCGGGGACG
 hu. 39-E 1045 TCGGAATACCAGTGCCGTACGTCTGGCTTCGACACACAGGGTGCTGCTCCGTTCCCGGGGACG
 rh. 53-E 1045 TCGGAATACCAGTGCCGTACGTCTGGCTTCGACACACAGGGTGCTGCTCCGTTCCCGGGGACG
 hu. 37-E 1045 TCGGAATACCAGTGCCGTACGTCTGGCTTCGACACACAGGGTGCTGCTCCGTTCCCGGGGACG
 rh. 43-E 1042 TCGGAGTACCAGTGCCGTACGTCTGGCTTCGACACACAGGGTGCTGCTCCGTTCCCGGGGACG
 rh. 50-E 1045 TCGGAATACCAGTGCCGTACGTCTGGCTTCGACACACAGGGTGCTGCTCCGTTCCCGGGGACG
 rh. 49-E 1045 TCGGAGTACCAGTGCCGTACGTCTGGCTTCGACACACAGGGTGCTGCTCCGTTCCCGGGGACG
 rh. 61-E 1045 TCGGAATACCAGTGCCGTACGTCTGGCTTCGACACACAGGGTGCTGCTCCGTTCCCGGGGACG
 hu. 41-E 1045 TCGGAATACCAGTGCCGTACGTCTGGCTTCGACACACAGGGTGCTGCTCCGTTCCCGGGGACG
 rh. 64-E 1045 TCGGAATACCAGTGCCGTACGTCTGGCTTCGACACACAGGGTGCTGCTCCGTTCCCGGGGACG
 hu. 42-E 1045 TCGGAATACCAGTGCCGTACGTCTGGCTTCGACACACAGGGTGCTGCTCCGTTCCCGGGGACG
 rh. 57-E 1045 TCGGAATACCAGTGCCGTACGTCTGGCTTCGACACACAGGGTGCTGCTCCGTTCCCGGGGACG
 hu. 40-E 1045 TCGGAATACCAGTGCCGTACGTCTGGCTTCGACACACAGGGTGCTGCTCCGTTCCCGGGGACG
 AAV8-E 1045 TCGGAGTACCAGTGCCGTACGTCTGGCTTCGACACACAGGGTGCTGCTCCGTTCCCGGGGACG
 rh. 58-E 1045 TCGGAATACCAGTGCCGTACGTCTGGCTTCGACACACAGGGTGCTGCTCCGTTCCCGGGGACG
 rh. 40-E 1045 TCGGAATACCAGTGCCGTACGTCTGGCTTCGACACACAGGGTGCTGCTCCGTTCCCGGGGACG
 hu. 67-E 1045 TCGGAATACCAGTGCCGTACGTCTGGCTTCGACACACAGGGTGCTGCTCCGTTCCCGGGGACG

FIG. 3AR

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hu.17-E	1045	TCGGAATACAGTCCCCTACGTCTCGGCTCTGCGCACACAGGGCTGCCCGCCTCCGTTCCCCGGCGGACG	1130	1140	1150	1160	1170	1180	1190
hu.6-E	1045	TCGGAATACAGTCCCCTACGTCTCGGCTCTGCGCACACAGGGCTGCCCGCCTCCGTTCCCCGGCGGACG							
hu.66-E	1045	TCGGAATACAGTCCCCTACGTCTCGGCTCTGCGCACACAGGGCTGCCCGCCTCCGTTCCCCGGCGGACG							
rh.38-E	1045	TCGGAATACAGTCCCCTACGTCTCGGCTCTGCGCACACAGGGCTGCCCGCCTCCGTTCCCCGGCGGACG							
hu.32-F	1042	TCAGACTATCAGTCCCCTACGTCTCGGCTCTGCGCTACGAGGGCTGCCCTCCCGCCGTTCCCAAGCGGACG							
AAV9/hu	1042	TCAGACTATCAGTCCCCTACGTCTCGGCTCTGCGCTACGAGGGCTGCCCTCCCGCCGTTCCCAAGCGGACG							
hu.31-F	1042	TCAGACTATCAGTCCCCTACGTCTCGGCTCTGCGCTACGAGGGCTGCCCTCCCGCCGTTCCCAAGCGGACG							
AAV5	1079	TCATTACGCTGCCGACGTACGGTTACGCGACGCTGAACCCGCGAC--AACACAGAAATCCCAACCGGACG	1130	1140	1150	1160	1170	1180	1190
AAV3-3	1106	TCATTATGTTCCCTCAGTATGGATACCTCACCTGAACAACGGA-----AGTCAAGCGGTGGGACG							
AAV4-4	1079	TCATTATGTTGCCCGCAGTACGGCTACTGTGGACTGTGACCGGCAACACTTCGCAGCAACAGACTGACAG							
AAV1-A	1109	TGTTTCATGATTCCGCAATACGGCTACCTGACGCTCAACAATGGC-----AGCCAAGCCGTGGGACG							
hu.46-A	1109	TGTTTCATGATTCCGCAATACGGCTACCTGACGCTCAACAATGGC-----AGCCAAGCCGTGGGACG							
hu.48-A	1109	TGTTTCATGATTCCGCAATACGGCTACCTGACGCTCAACAATGGC-----AGCCAAGCCGTGGGACG							
hu.44-A	1109	TGTTTCATGATTCCGCAATACGGCTACCTGACGCTCAACAATGGC-----AGCCAAGCCGTGGGACG							
hu.43-A	1112	TGTTTCATGATTCCGCAATACGGCTACCTGACGCTCAACAATGGC-----AGCCAAGCCGTGGGACG							
AAV6-A	1109	TGTTTCATGATTCCGCGAGTACGGCTACCTAACGCTCAACAATGGC-----AGCCAGGCAGTGGGACG							
hu.34-B	1106	TCATTATGTTGCCACAGTATGGATACCTCACCCCTGAACAACGAG-----AGTCAGGCAGTAGGACG							
hu.47-B	1106	TCATTATGTTGCCACAGTATGGATACCTCACCCCTGAACAACGAG-----AGTCAGGCAGTAGGACG							
hu.29-B	1106	TCATTATGTTGCCACAGTATGGATACCTCACCCCTGAACAACGAG-----AGTCAGGCAGTAGGACG							
hu.63-B	1106	TCATTATGTTGCCACAGTATGGATACCTCACCCCTGAACAACGAG-----AGTCAGGCAGTAGGACG							
hu.56-B	1106	TCATTATGTTGCCACAGTATGGATACCTCACCCCTGAACAACGAG-----AGTCAGGCAGTAGGACG							
hu.45-B	1106	TCATTATGTTGCCACAGTATGGATACCTCACCCCTGAACAACGAG-----AGTCAGGCAGTAGGACG							
hu.57-B	1103	TCATTATGTTGCCACAGTATGGATACCTCACCCCTGAACAACGAG-----AGTCAGGCAGTAGGACG							
hu.35-B	1106	TCATTATGTTGCCACAGTATGGATACCTCACCCCTGAACAACGAG-----AGTCAGGCAGTAGGACG							
hu.58-B	1106	TCATTATGTTGCCACAGTATGGATACCTCACCCCTGAACAACGAG-----AGTCAGGCAGTAGGACG							
hu.28-B	1106	TCATTATGTTGCCACAGTATGGATACCTCACCCCTGAACAACGAG-----AGTCAGGCAGTAGGACG							
hu.51-B	1106	TCATTATGTTGCCACAGTATGGATACCTCACCCCTGAACAACGAG-----AGTCAGGCAGTAGGACG							

FIG. 3A5

hu.19-B	1106	TCTTCATGGTGCCACAGTATGGATACCTCACCCCTGAACAACGGC-----AGTCAGGCGGTAGGACG
hu.49-B	1106	TCTTCATGGTGCCACAGTATGGATACCTCACCCCTGAACAACGGG-----AGTCAGGCGGTAGGACG
hu.52-B	1106	TCTTCATGGTGCCACAGTATGGATACCTCACCCCTGAGCAACGGG-----AGTCAGGCGGTAGGACG
hu.13-B	1106	TCTTCATGGTGCCACAGTATGGATACCTCACCCCTGAACAACGGG-----AGTCAGGCGGTAGGACG
AAV2-B	1106	TCTTCATGGTGCCACAGTATGGATACCTCACCCCTGAACAACGGG-----AGTCAGGCGGTAGGACG
hu.20-B	1106	TCTTCATGGTGCCACAGTATGGATACCTCACCCCTGAACAACGGC-----AGTCAGGCGGTAGGACG
hu.24-B	1106	TCTTCATGGTGCCACAGTATGGATACCTCACCCCTGAACAACGGC-----AGTCAGGCGGTAGGACG
hu.64-B	1106	TCTTCATGGTGCCACAGTATGGATACCTCACCCCTGAACAACGGG-----AGTCAGGCGGTAGGACG
hu.27-B	1106	TCTTCATGGTGCCACAGTATGGATACCTCACCCCTGAACAACGGC-----AGTCAGGCGGTAGGACG
hu.21-B	1106	TCTTCATGGTGCCACAGTATGGATACCTCACCCCTGAACAACGGC-----AGTCAGGCGGTAGGACG
hu.22-B	1106	TCTTCATGGTGCCACAGTATGGATACCTCACCCCTGAACAACGGC-----AGTCAGGCGGTAGGACG
hu.23-B	1106	TCTTCATGGTGCCACAGTATGGATACCTCACCCCTGAACAACGGC-----AGTCAGGCGGTAGGACG
hu.7-C	1106	TCTTCATGGTGCCACAGTATGGATACCTCACCCCTGAACAACGGG-----AGTCAGGCGGTAGGACG
hu.61-C	1106	TCTTCATGGTGCCACAGTATGGATACCTCACCCCTGAACAACGGG-----AGTCAGGCGGTAGGACG
rh.56-C	1106	TCTTCATGGTGCCACAGTATGGATACCTCACCCCTGAACAACGGG-----AGTCAGGCGGTAGGACG
hu.9-C	1106	TCTTCATGGTGCCACAGTATGGATACCTCACCCCTGAACAACGGG-----AGTCAGGCGGTAGGACG
hu.54-C	1106	TCTTCATGGTGCCACAGTATGGATACCTCACCCCTGAACAACGGG-----AGTCAGGCGGTAGGACG
hu.53-C	1106	TCTTCATGGTGCCACAGTATGGATACCTCACCCCTGAACAACGGG-----AGTCAGGCGGTAGGACG
hu.60-C	1106	TCTTCATGGTGCCACAGTATGGATACCTCACCCCTGAACAACGGG-----AGTCAGGCGGTAGGACG
hu.55-C	1106	TCTTCATGGTGCCACAGTATGGATACCTCACCCCTGAACAACGGG-----AGTCAGGCGGTAGGACG
hu.2-C	1106	TCTTCATGGTGCCACAGTATGGATACCTCACCCCTGAACAACGGG-----AGTCAGGCGGTAGGACG
hu.1-C	1106	TCTTCATGGTGCCACAGTATGGATACCTCACCCCTGAACAACGGG-----AGTCAGGCGGTAGGACG
hu.18-C	1106	TCTTCATGGTGCCACAGTATGGATACCTCACCCCTGAACAACGGG-----AGTCAGGCGGTAGGACG
hu.3-C	1109	TCTTCATGGTGCCACAGTATGGATACCTCACCCCTGAACAACGGG-----AGTCAGGCGGTAGGACG
hu.25-C	1106	TCTTCATGGTGCCACAGTATGGATACCTCACCCCTGAACAACGGG-----AGTCAGGCGGTAGGACG
hu.15-C	1106	TCTTCATGGTGCCACAGTATGGATACCTCACCCCTGAACAACGGG-----AGTCAGGCGGTAGGACG
hu.16-C	1106	TCTTCATGGTGCCACAGTATGGATACCTCACCCCTGAACAACGGG-----AGTCAGGCGGTAGGACG
hu.11-C	1106	TCTTCATGGTGCCACAGTATGGATACCTCACCCCTGAACAACGGG-----AGTCAGGCGGTAGGACG
hu.10-C	1106	TCTTCAGGTGCCACAGTATGGATACCTCACCCCTGAACAACGGG-----AGTCAGGCGGTAGGACG
hu.4-C	1106	TCTTCATGGTGCCACAGTATGGATACCTCACCCCTGAACAACGGG-----AGTCAGGCGGTAGGACG

FIG. 3AT

rh. 54-D	1112	TCTTCATGATTCTCAGTACGGCTACCTGACTCTGAACAATGGC-----AGCCAATCGGTGGGACG
rh. 48-D	1112	TCTTCATGATTCCCCAGTACGGCTACCTGACTCTGAACAATGGC-----AGCCAATCGGTGGGTGGTCCG
rh. 55-D	1112	TCTTCATGATTCCCCAGTACGGCTACCTGACTCTGAACAATGGC-----AGCCAATCGGTGGGTGGTCCG
rh. 62-D	1112	TCTTCATGATTCCCCAGTACGGCTACCTGACTCTGAACAATGGC-----AGCCAATCGGTGGGTGGTCCG
AAV7-D	1112	TCTTCATGATTCTCAGTACGGCTACCTGACTCTCAACAATGGC-----AGTCAGTCTGTGGGACG
rh. 52-E	1115	TCTTCATGATTCTCAGTACGGCTACCTGACTCTCAACAACGGT-----AGTCAGGCCCGTGGGACG
rh. 51-E	1115	TCTTCATGATTCTCAGTACGGCTACCTGACTCTCAACAACGGT-----AGTCAGGCCCGTGGGACG
hu. 39-E	1115	TCTTCATGATTCTCAGTACGGCTACCTGACTCTCAACAACGGT-----AGTCAGGCCCGTGGGACG
rh. 53-E	1115	TCTTCATGATTCTCAGTACGGCTACCTGACTCTCAACAACGGT-----AGTCAGGCCCGTGGGACG
hu. 37-E	1115	TCTTCATGATTCTCAGTACGGCTACCTGACTCTCAACAATGGA-----AGTCAAGCCCGTAGGCCG
rh. 43-E	1112	TGTTTCATGATTCCCCAGTACGGCTACCTAACACTCAACAACGGT-----AGTCAGGCCCGTGGGACG
rh. 50-E	1115	TCTTCATGATTCTCAGTACGGCTACCTGACTCTCAACAACGGT-----AGTCAGGCCCGTGGGACG
rh. 49-E	1115	TCTTCATGATTCTCAGTACGGCTACCTGACTCTCAACAACGGT-----AGTCAGGCCCGTGGGACG
rh. 61-E	1115	TCTTCATGATTCTCAGTACGGCTACCTGACTCTCAACAACGGT-----AGTCAGGCCCGTGGGACG
hu. 41-E	1115	TCTTCATGATTCCCCAGTACGGCTACCTTACACTGAACAATGGA-----AGTCAAGCCCGTAGGCCG
rh. 64-E	1115	TCTTCATGATTCTCAGTACGGCTACCTGACTCTCAACAACGGT-----AGTCAGGCCCGTGGGACG
hu. 42-E	1115	TCTTCATGATTCCCCAGTACGGCTACCTTACACTGAACAATGGA-----AGTCAAGCCCGTAGGCCG
rh. 57-E	1115	TCTTCATGATTCTCAGTACGGCTACCTGACTCTCAACAACGGT-----AGTCAGGCCCGTGGGACG
hu. 40-E	1115	TCTTCATGATTCCCCAGTACGGCTACCTTACACTGAACAATGGA-----AGTCAAGCCCGTAGGCCG
AAV8-E	1115	TGTTTCATGATTCCCCAGTACGGCTACCTAACACTCAACAACGGT-----AGTCAGGCCCGTGGGACG
rh. 58-E	1115	TCTTCATGATTCTCAGTACGGCTACCTGACTCTCAACAACGGT-----AGTCAGGCCCGTGGGACG
rh. 40-E	1115	TCTTCATGATTCCCCAGTACGGCTACCTTACACTGAACAATGGA-----AGTCAAGCCCGTAGGCCG
hu. 67-E	1115	TCTTCATGATTCCCCAGTACGGCTACCTTACACTGAACAATGGA-----AGTCAAGCCCGTAGGCCG
hu. 17-E	1115	TCTTCATGATTCTCAGTACGGCTACCTGACTCTGAACAACGGC-----AGTCAGGCCCGTGGGCCG
hu. 6-E	1115	TCTTCATGATTCTCAGTACGGCTACCTGACTCTGAACAACGGC-----AGTCAGGCCCGTGGGCCG
hu. 66-E	1115	TCTTCATGATTCCCCAGTACGGCTACCTTACACTGAACAATGGA-----AGTCAAGCCCGTAGGCCG
rh. 38-E	1115	TCTTCATGATTCCCCAGTACGGCTACCTTACACTGAACAATGGA-----AGTCAAGCCCGTAGGCCG
hu. 32-F	1112	TTTTTCATGATTCTCAGTACGGGTATCTGACGCTTAATGATGG-----AGCCAGGCCCGTGGGTCCG
AAV9/hu	1112	TTTTTCATGATTCTCAGTACGGGTATCTGACGCTTAATGATGGA-----AGCCAGGCCCGTGGGTCCG
hu. 31-F	1112	TTTTTCATGATTCTCAGTACGGGTATCTGACGCTTAATGATGGA-----GGCCAGGCCCGTGGGTCCG

FIG. 3AU

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	1200	1210	1220	1230	1240	1250	1260
						
AAV5	1146	GAGCAGCTTCTTCTG	CCTAGAGTACTTTCC	CAGCAAGATGCTG	AGAACGGGCAACA	ACTTTGAGTTTACC	
AAV3-3	1167	CTCATCCTTTTACTG	CGCTGGAGTACTTCC	CTTCGCAGATGCTA	AGGACTGGAAATAA	CACTTCCAATTACG	
AAV4-4	1149	AAATGCCCTTCTACT	GCCTGGAGTACTTCC	TTTCGCAGATGCTG	CGGACTGGCAACA	CACTTTGAAATTACG	
AAV1-A	1170	TTCATCCTTTTACTG	CGCTGGAATATTTCC	CTCTCAGATGCTG	AGAACGGGCAACA	CACTTTACCTTCAGC	
hu.46-A	1170	TTCATCCTTCTACTG	CGCTGGAATATTTCC	CTCTCAGATGCTG	AGAACGGGCAACA	CACTTTACCTTCAGC	
hu.48-A	1170	TTCATCCTTTTACTG	CGCTGGAATATTTCC	CTCTCAGATGCTG	AGAACGGGCAACA	CACTTTACCTTCAGC	
hu.44-A	1170	TTCATCCTTTTACTG	CGCTGGAATATTTCC	CTCTCAGATGCTG	AGAACGGGCAACA	CACTTTACCTTCAGC	
hu.43-A	1173	TTCATCCTTTTACTG	CGCTGGAATATTTCC	CTCTCAGATGCTG	AGAACGGGCAACA	CACTTTACCTTCAGC	
AAV6-A	1170	GTCAATCCTTTTACT	GCGCTGGAATATTTCC	CAATCGCAGATGCT	GAGAACGGGCAAT	AACCTTTACCTTCAGC	
hu.34-B	1167	CTCTTCATTTTACTG	CGCTGGAGTACTTTCC	TTCTCAGATGCTG	CGTACCGGAAACA	CACTTTACCTTCAGC	
hu.47-B	1167	CTCTTCATTTTACTG	CGCTGGAGTACTTTCC	TTCTCAGATGCTG	CGTACCGGAAACA	CACTTTACCTTCAGC	
hu.29-B	1167	CTCTTCATTTTACTG	CGCTAGGTACTTTCC	TTCTCAGATGCTG	CGTACCGGAAACA	CACTTTACCTTCAGC	
hu.63-B	1167	CTCTTCATTTTACTG	CGCTGGAGTACTTTCC	TTCTCAGATGCTG	CGTACCGGAAACA	CACTTTACCTTCAGC	
hu.56-B	1167	CTCTTCCTTTTACTG	CGCTGGAGTACTTTCC	TTCTCAGATGCTG	CGTACCGGAAACA	CACTTTACCTTCAGC	
hu.45-B	1167	CTCTTCATTTTACTG	CGCTGGAGTACTTTCC	TTCTCAGATGCTG	CGTACCGGAAACA	CACTTTACCTTCAGC	
hu.57-B	1164	CTCTTCCTTTTACTG	CGCTGGAGTACTTTCC	TTCTCAGATGCTG	CGTACCGGAAACA	CACTTTACCTTCAGC	
hu.35-B	1167	CTCTTCATTTTACTG	CGCTGGAGTACTTTCC	TTCTCAGATGCTG	CGTACCGGAAACA	CACTTTACCTTCAGC	
hu.58-B	1167	CTCTTCATTTTACTG	CGCTGGAGTACTTTCC	TTCTCAGATGCTG	CGTACCGGAAACA	CACTTTACCTTCAGC	
hu.28-B	1167	CTCTTCATTTTACTG	CGCTGGAGTACTTTCC	TTCTCAGATGCTG	CGTACCGGAAACA	CACTTTACCTTCAGC	
hu.51-B	1167	CTCTTCATTTTACTG	CGCTGGAGTACTTTCC	TTCTCAGATGCTG	CGTACCGGAAACA	CACTTTACCTTCAGC	
hu.19-B	1167	CTCTTCCTTTTACTG	CGCTGGAGTACTTTCC	TTCTCAGATGCTG	CGTACCGGAAACA	CACTTTACCTTCAGC	
hu.49-B	1167	CTCTTCATTTTACTG	CGCTGGAGTACTTTCC	TTCTCAGATGCTG	CGTACCGGAAACA	CACTTTACCTTCAGC	
hu.52-B	1167	CTCTTCATTTTACTG	CGCTGGAGTACTTTCC	TTCTCAGATGCTG	CGTACCGGAAACA	CACTTTACCTTCAGC	
hu.13-B	1167	CTCTTCATTTTACTG	CGCTGGAGTACTTTCC	TTCTCAGATGCTG	CGTACCGGAAACA	CACTTTACCTTCAGC	
AAV2-B	1167	CTCTTCATTTTACTG	CGCTGGAGTACTTTCC	TTCTCAGATGCTG	CGTACCGGAAACA	CACTTTACCTTCAGC	
hu.20-B	1167	CTCTTCCTTTTACTG	CGCTGGAGTACTTTCC	TTCTCAGATGCTG	CGTACCGGAAACA	CACTTTACCTTCAGC	
hu.24-B	1167	CTCTTCCTTTTACTG	CGCTGGAGTACTTTCC	TTCTCAGATGCTG	CGTACCGGAAACA	CACTTTACCTTCAGC	

FIG. 3AV

hu. 64-B	1167	CTCTTCA	TTTTACTG	CCCTGG	AGTACT	TTTCC	TCTC	AGATG	CTGCGT	ACCGG	AAACA	CACTTT	TACCT	TCAGC
hu. 27-B	1167	CTCTTCC	TTTTTACT	GCCTGG	AGTACT	TTTCC	TCTC	AGATG	CTTCCG	TACCG	GAACA	CACTTT	TACCT	TCAGC
hu. 21-B	1167	CTCTTCC	TTTTTACT	GCCTGG	AGTACT	TTTCC	TCTC	AGATG	CTTCCG	TACCG	GAACA	CACTTT	TACCT	TCAGC
hu. 22-B	1167	CTCTTCC	TTTTTACT	GCCTGG	AGTACT	TTTCC	TCTC	AGATG	CTTCCG	TACCG	GAACA	CACTTT	TACCT	TCAGC
hu. 23-B	1167	CTCTTCC	TTTTTACT	GCCTGG	AGTACT	TTTCC	TCTC	AGATG	CTTCCG	TACCG	GAACA	CACTTT	TACCT	TCAGC
hu. 7-C	1167	CTCTTCC	TTTTTACT	GCCTGG	AGTACT	TTTCC	TCTC	AGATG	CTTCCG	TACCG	GAACA	CACTTT	TACCT	TCAGC
hu. 61-C	1167	CTCTTCC	TTTTTACT	GCCTGG	AGTACT	TTTCC	TCTC	AGATG	CTTCCG	TACCG	GAACA	CACTTT	TACCT	TCAGC
rh. 56-C	1167	CTCTTCC	TTTTTACT	GCCTGG	AGTACT	TTTCC	TCTC	AGATG	CTTCCG	TACCG	GAACA	CACTTT	TACCT	TCAGC
hu. 9-C	1167	CTCTTCC	TTTTTACT	GCCTGG	AGTACT	TTTCC	TCTC	AGATG	CTTCCG	TACCG	GAACA	CACTTT	TACCT	TCAGC
hu. 54-C	1167	CTCTTCC	TTTTTACT	GCCTGG	AGTACT	TTTCC	TCTC	AGATG	CTTCCG	TACCG	GAACA	CACTTT	TACCT	TCAGC
hu. 53-C	1167	CTCTTCC	TTTTTACT	GCCTGG	AGTACT	TTTCC	TCTC	AGATG	CTTCCG	TACCG	GAACA	CACTTT	TACCT	TCAGC
hu. 60-C	1167	CTCTTCC	TTTTTACT	GCCTGG	AGTACT	TTTCC	TCTC	AGATG	CTTCCG	TACCG	GAACA	CACTTT	TACCT	TCAGC
hu. 55-C	1167	CTCTTCC	TTTTTACT	GCCTGG	AGTACT	TTTCC	TCTC	AGATG	CTTCCG	TACCG	GAACA	CACTTT	TACCT	TCAGC
hu. 2-C	1167	CTCTTCC	TTTTTACT	GCCTGG	AGTACT	TTTCC	TCTC	AGATG	CTTCCG	TACCG	GAACA	CACTTT	TACCT	TCAGC
hu. 1-C	1167	CTCTTCC	TTTTTACT	GCCTGG	AGTACT	TTTCC	TCTC	AGATG	CTTCCG	TACCG	GAACA	CACTTT	TACCT	TCAGC
hu. 18-C	1167	CTCTTCC	TTTTTACT	GCCTGG	AGTACT	TTTCC	TCTC	AGATG	CTTCCG	TACCG	GAACA	CACTTT	TACCT	TCAGC
hu. 3-C	1170	CTCTTCC	TTTTTACT	GCCTGG	AGTACT	TTTCC	TCTC	AGATG	CTTCCG	TACCG	GAACA	CACTTT	TACCT	TCAGC
hu. 25-C	1167	CTCTCC	TTTTTACT	GCCTGG	AGTACT	TTTCC	TCTC	AGATG	CTTCCG	TACCG	GAACA	CACTTT	TACCT	TCAGC
hu. 15-C	1167	CTCTTCC	TTTTTACT	GCCTGG	AGTACT	TTTCC	TCTC	AGATG	CTTCCG	TACCG	GAACA	CACTTT	TACCT	TCAGC
hu. 16-C	1167	CTCTTCC	TTTTTACT	GCCTGG	AGTACT	TTTCC	TCTC	AGATG	CTTCCG	TACCG	GAACA	CACTTT	TACCT	TCAGC
hu. 11-C	1167	CTCTTCC	TTTTTACT	GCCTGG	AGTACT	TTTCC	TCTC	AGATG	CTTCCG	TACCG	GAACA	CACTTT	TACCT	TCAGC
hu. 10-C	1167	CTCTTCC	TTTTTACT	GCCTGG	AGTACT	TTTCC	TCTC	AGATG	CTTCCG	TACCG	GAACA	CACTTT	TACCT	TCAGC
hu. 4-C	1167	CTCTTCC	TTTTTACT	GCCTGG	AGTACT	TTTCC	TCTC	AGATG	CTTCCG	TACCG	GAACA	CACTTT	TACCT	TCAGC
rh. 54-D	1173	TTCA	TCCCTT	CTACTG	CCCTG	GAATA	CTTCC	CTC	AGG	TGCTG	AGAAC	CGGTAA	CAACT	TCACCT
rh. 48-D	1173	TTCC	CTCTT	CTACTG	CCCTG	GAATA	TTTCC	CTC	AAAT	GCTG	AGAAC	CGGCA	CAACT	TCACCT
rh. 55-D	1173	TTCC	CTCTT	CTACTG	CCCTG	GAATA	TTTCC	CTC	AAAT	GCTG	AGAAC	CGGCA	CAACT	TCACCT
rh. 62-D	1173	TTCC	CTCTT	CTACTG	CCCTG	GAATA	TTTCC	CTC	AAAT	GCTG	AGAAC	CGGCA	CAACT	TCACCT
AAV7-D	1173	TTCC	CTCTT	CTACTG	CCCTG	GAATA	TTTCC	CTC	AAAT	GCTG	AGAAC	CGGCA	CAACT	TCACCT
rh. 52-E	1176	TTCC	CTCTT	CTACTG	CCCTG	GAATA	TTTCC	CTC	AAAT	GCTG	AGAAC	CGGCA	CAACT	TCACCT
rh. 51-E	1176	TTCC	CTCTT	CTACTG	CCCTG	GAATA	TTTCC	CTC	AAAT	GCTG	AGAAC	CGGCA	CAACT	TCACCT

FIG. 3AW

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hu. 39-E	1176	TTCCCTCCTTCTACTGCCCTGGAGTACTTCCCTCTCAGATGCTGAGAACGGGCAACAACCTTTTCCTTCAGC	1270	1280	1290	1300	1310	1320	1330
rh. 53-E	1176	TTCCCTCCTTCTACTGCCCTGGAGTACTTCCCTCTCAGATGCTGAGAACGGGCAACAACCTTTTCCTTCAGC							
hu. 37-E	1176	TTCCCTCCTTCTACTGCCCTGGAGTACTTCCCTCTCAGATGCTGAGAACGGGCAACAACCTTTTCCTTCAGC							
rh. 43-E	1173	CTCCTCCTTCTACTGCCCTGGAGTACTTCCCTTCGCAGATGCTGAGAACGGGCAACAACCTTCCAGTTTACT							
rh. 50-E	1176	TTCCCTCCTTCTACTGCCCTGGAGTACTTCCCTCTCAGATGCTGAGAACGGGCAACAACCTTTTCCTTCAGC							
rh. 49-E	1176	TTCCCTCCTTCTACTGCCCTGGAGTACTTCCCTCTCAGATGCTGAGAACGGGCAACAACCTTTTCCTTCAGC							
rh. 61-E	1176	TTCCCTCCTTCTACTGCCCTGGAGTACTTCCCTCTCAGATGCTGAGAACGGGCAACAACCTTTTCCTTCAGC							
hu. 41-E	1176	TTCCCTCCTTCTACTGCCCTGGAGTACTTCCCTCTCAGATGCTGAGAACGGGCAACAACCTTTTCCTTCAGC							
rh. 64-E	1176	TTCCCTCCTTCTACTGCCCTGGAGTACTTCCCTCTCAGATGCTGAGAACGGGCAACAACCTTTTCCTTCAGC							
hu. 42-E	1176	TTCCCTCCTTCTACTGCCCTGGAGTACTTCCCTCTCAGATGCTGAGAACGGGCAACAACCTTTTCCTTCAGC							
rh. 57-E	1176	TTCCCTCCTTCTACTGCCCTGGAGTACTTCCCTCTCAGATGCTGAGAACGGGCAACAACCTTTTCCTTCAGC							
hu. 40-E	1176	TTCCCTCCTTCTACTGCCCTGGAGTACTTCCCTCTCAGATGCTGAGAACGGGCAACAACCTTTTCCTTCAGC							
AAV8-E	1176	CTCCTCCTTCTACTGCCCTGGAGTACTTCCCTTCGCAGATGCTGAGAACGGGCAACAACCTTCCAGTTTACT							
rh. 58-E	1176	TTCCCTCCTTCTACTGCCCTGGAGTACTTCCCTCTCAGATGCTGAGAACGGGCAACAACCTTTTCCTTCAGC							
rh. 40-E	1176	TTCCCTCCTTCTACTGCCCTGGAGTACTTCCCTCTCAGATGCTGAGAACGGGCAACAACCTTTTCCTTCAGC							
hu. 67-E	1176	TTCCCTCCTTCTACTGCCCTGGAGTACTTCCCTCTCAGATGCTGAGAACGGGCAACAACCTTTTCCTTCAGC							
hu. 17-E	1176	TTCCCTCCTTCTACTGCCCTGGAGTACTTCCCTCTCAGATGCTGAGAACGGGCAACAACCTTTTCCTTCAGC							
hu. 6-E	1176	TTCCCTCCTTCTACTGCCCTGGAGTACTTCCCTCTCAGATGCTGAGAACGGGCAACAACCTTTTCCTTCAGC							
hu. 66-E	1176	TTCCCTCCTTCTACTGCCCTGGAGTACTTCCCTCTCAGATGCTGAGAACGGGCAACAACCTTTTCCTTCAGC							
rh. 38-E	1176	TTCCCTCCTTCTACTGCCCTGGAGTACTTCCCTCTCAGATGCTGAGAACGGGCAACAACCTTTTCCTTCAGC							
hu. 32-F	1173	TTCCCTCCTTCTACTGCCCTGGAGTACTTCCCTCTCAGATGCTGAGAACGGGCAACAACCTTTTCCTTCAGC							
AAV9/hu	1173	TTCCCTCCTTCTACTGCCCTGGAGTACTTCCCTCTCAGATGCTGAGAACGGGCAACAACCTTTTCCTTCAGC							
hu. 31-F	1173	TTCCCTCCTTCTACTGCCCTGGAGTACTTCCCTCTCAGATGCTGAGAACGGGCAACAACCTTTTCCTTCAGC							
AAV5	1216	TACAACCTTTGAGGAGGTGCCCTTCCACTCCAGCTTCGCTCCAGTCAGAACCTGTTCAAGCTGGCCAACC							
AAV3-3	1237	TATACCTTCGAGGATGTACCTTTTCACAGCAGCTACGCTCACAGCCAGAGTTTGGATCGCTTGATGAATC							
AAV4-4	1219	TACAGTTTTCGAGGAGGTGCCCTTCCACTCGATGTACGCGCACAGCCAGAGCTTGACCGGCTGATGAACC							
AAV1-A	1240	TACACCTTTGAGGAGGTGCCCTTCCACAGCAGCTACGCGCACAGCCAGAGCTTGACCGGCTGATGAATC							

FIG. 3AX

hu. 46-A 1240 TACACCTTTGAGGAAGTGCCTCTCCACAGCAGCTGCGCGCACAGCCACAGAGCCCTGGACCGGCTGATGAATC
 hu. 48-A 1240 TACACCTTTGAGGAAGTGCCTTTCCACAGCAGCTACGCGCACAGCCACAGAGCCCTGGACCGGCTGATGAATC
 hu. 44-A 1240 TACACCTTTGAGGAAGTGCCTTTCCACAGCAGCTACGCGCACAGCCACAGAGCCCTGGACCGGCTGATGAATC
 hu. 43-A 1243 TACACCTTTGAGGAAGTGCCTCTCCACAGCAGCTACGCGCACAGCCACAGAGCCCTGGACCGGCTGATGAATC
 AAV6-A 1240 TACACCTTCGAGGACGTGCCTTTCCACAGCAGCTACGCGCACAGCCACAGAGCCCTGGACCGGCTGATGAATC
 hu. 34-B 1237 TACACTTTTGAGGACGTTCCCTTTCCACAGCAGCTACGCTCACAGCCACAGAGTCTGGCCGTCTCATGAATC
 hu. 47-B 1237 TACACTTTTGAGGACGTTCCCTTTCCACAGCAGCTACGCTCACAGCCACAGAGTCTGGACCGTCTCATGAATC
 hu. 29-B 1237 TACACCTTTGAGGACGTTCCCTTTCCACAGCAGCTACGCTCACAGCCACAGAGTTTGGACCGTCTCATGAATC
 hu. 63-B 1237 TACACCTTTGAGGACGTTCCCTTTCCACAGCAGCTACGCTCACAGCCACAGAGTTTGGACCGTCTCATGAATC
 hu. 56-B 1237 TACACTTTTGAAGACGTTCCCTTTCCACAGCAGCTACGCTCACAGTCAAAGTCTGGACCGTCTCATGAATC
 hu. 45-B 1237 TACACTTTTGAGGACGTTCCCTTTCCACAGCAGCTACGCTCACAGCCACAGAGTCTGGACCGTCTCATGAATC
 hu. 57-B 1234 TACACTTTTGAAGACGTTCCCTTTCCACAGCAGCTACGCTCACAGTCAAAGTCTGGACCGTCTCATGAATC
 hu. 35-B 1237 TACACTTTTGAGGACGTTCCCTTTCCACAGCAGCTACGCTCACAGCCACAGAGTCTGGCCCGTCTCATGAATC
 hu. 58-B 1237 TACACCTTTGAGGATGTTCCCTTTCCACAGCAGCTACGCTCACAGCCACAGAGTTTGGACCGTCTCATGAATC
 hu. 28-B 1237 TACACCTTTGAGGACGTTCCCTTTCCACAGCAGCTACGCTCACAGCCACAGAGTTTGGACCGTCTCATGAATC
 hu. 51-B 1237 TACACTTTTGAGGACGTTCCCTTTCCACAGCGGCTACGCTCACAGCCACAGAGTCTGGACCGTCTCATGAATC
 hu. 19-B 1237 TACACCTTTGAAGACGTTCCCTTTCCATAGCAGCTACGCTCACAGCCAAAGTCTGGACCGTCTCATGAATC
 hu. 49-B 1237 TACACCTTTGAGGATGTTCCCTTTCCACAGCAGCTACGCTCACAGCCACAGAGTTTGGACCGTCTCATGAATC
 hu. 52-B 1237 TACACTTTTGAGGACGTTCCCTTTCCACAGCAGCTACGCTCACAGCCACAGAGTCTGGACCGTCTCATGAATC
 hu. 13-B 1237 TACACCTTTGAGGACGTTCCCTTTCCACAGCAGCTACGCTCACAGCCACAGAGTTTGGACCGTCTCATGAATC
 AAV2-B 1237 TACACTTTTGAGGACGTTCCCTTTCCACAGCAGCTACGCTCACAGCCACAGAGTCTGGACCGTCTCATGAATC
 hu. 20-B 1237 TACACCTTTGAAGACGTTCCCTTTCCATAGCAGCTACGCTCACAGCCAAAGTCTGGACCGTCTCATGAATC
 hu. 24-B 1237 TACACCTTTGAAGACGTTCCCTTTCCATAGCAGCTACGCTCACAGCCAAAGTCTGGACCGTCTCATGAATC
 hu. 64-B 1237 TACACCTTTGAGGACGTTCCCTTTCCACAGCAGCTACGCTCACAGCCACAGAGTTTGGACCGTCTCATGAATC
 hu. 27-B 1237 TACACCTTTGAAGACGTTCCCTTTCCATAGCAGCTACGCTCACGGCCAAAGTCTGGACCGTCTCATGAATC
 hu. 21-B 1237 TACACCTTTGAAGACGTTCCCTTTCCATAGCAGCTACGCTCACAGCCAAAGTCTGGACCGTCTCATGAATC
 hu. 22-B 1237 TACACCTTTGAAGACGTTCCCTTTCCATAGCAGCTACGCTCACAGCCAAAGTCTGGACCGTCTCATGAATC
 hu. 23-B 1237 TACACCTTTGAAGACGTTCCCTTTCCATAGCAGCTACGCTCACAGCCAAAGTCTGGACCGTCTCATGAATC
 hu. 7-C 1237 TACACCTTTGAAGACGTTCCCTTTCCACAGCAGCTACGCTCACAGCCACAGAGTCTGGATCGGCTGATGAATC
 hu. 61-C 1237 TACACTTTTGAAGACGTTGCCTTTCCACAGCAGCTACGCTCACAGCCACAGAGTCTGGATCGGCTGATGAATC

FIG. 3A

rh. 56-C	1237	TACACCTTTGAAGACGTTCCCTTCCACAGCAGCTACGCTCACAGCCAGAGTCTGGATCGGCTGATGAATC
hu. 9-C	1237	TACACCTTTGAGGACGTTCCCTTCCACAGCAGCTACGCTCACAGCCAGAGTTTGGACCGGCTGATGAATC
hu. 54-C	1237	TACACTTTTGAAGACGTTGCCCTTCCACAGCAGCTACGCTCACAGCCAGGGTTTGGATCGGCTGATGAATC
hu. 53-C	1237	TACACTTTTGAAGACGTTGCCCTTCCACAGCAGCTACGCTCACAGCCAGAGTTTGGATCGGCTGATGAATC
hu. 60-C	1237	TACACTTTTGAAGACGTTGCCCTTCCACAGCAGCTACGCTCACAGCCAGAGTTTGGATCGGCTGATGAATC
hu. 55-C	1237	TACACTTTTGAAGACGTTGCCCTTCCACAGCAGCTACGCTCACAGCCAGAGTTTGGATCGGCTGATGAATC
hu. 2-C	1237	TACACTTTTGAAGACGTTGCCCTTCCACAGCAGCTACGCTCACAGCCAGAGTTTGGATCGGCTGATGAATC
hu. 1-C	1237	TACACTTTTGAAGACGTTGCCCTTCCACAGCAGCTACGCTCACAGCCAGAGTTTGGATCGGCTGATGAATC
hu. 18-C	1237	TACACCTTTGAAGACGTTCCCTTCCACAGCAGCTACGCTCACAGCCAGAGTTTGGATCGGCTGATGAATC
hu. 3-C	1240	TACACTTTTGAAGACGTTGCCCTTCCACAGCAGCTACGCTCACAGCCAGAGTTTGGATCGGCTGATGAATC
hu. 25-C	1237	TACACTTTTGAAGACGTTGCCCTTCCACAGCAGCTACGCTCACAGCCAGAGTTTGGATCGGCTGATGAATC
hu. 15-C	1237	TACACCTTTGAAGACGTTCCCTTCCACAGCAGCTACGCTCACAGCCAGAGTTTGGATCGGCTGATGAATC
hu. 16-C	1237	TACACCTTTGAAGACGTTCCCTTCCACAGCAGCTACGCTCACAGCCAGAGTTTGGATCGGCTGATGAATC
hu. 11-C	1237	TACACCTTTGAGGACGTTCCCTTCCACAGCAGCTACGCTCACAGCCAGAGTTTGGATCGGCTGATGAATC
hu. 10-C	1237	TACACCTTTGAGGACGTTCCCTTCCACAGCAGCTACGCTCACAGCCAGAGTTTGGATCGGCTGATGAATC
hu. 4-C	1237	TACACTTTTGAAGACGTTGCCCTTCCACAGCAGCTACGCTCACAGCCAGAGTTTGGATCGGCTGATGAATC
rh. 54-D	1243	TACACCTTCGAGGACGTTGCCCTTCCACAGCAGCTACGCTCACAGCCAGAGTTTGGATCGGCTGATGAATC
rh. 48-D	1243	TACACCTTCGAGGACGTTGCCCTTCCACAGCAGCTACGCTCACAGCCAGAGTTTGGATCGGCTGATGAATC
rh. 55-D	1243	TACACCTTCGAGGACGTTGCCCTTCCACAGCAGCTACGCTCACAGCCAGAGTTTGGATCGGCTGATGAATC
rh. 62-D	1243	TACACCTTCGAGGACGTTGCCCTTCCACAGCAGCTACGCTCACAGCCAGAGTTTGGATCGGCTGATGAATC
AAV7-D	1243	TACAGCTTCGAGGACGTTGCCCTTCCACAGCAGCTACGCTCACAGCCAGAGTTTGGATCGGCTGATGAATC
rh. 52-E	1246	TACACTTTTCGAGGACGTTGCCCTTCCACAGCAGCTACGCTCACAGCCAGAGTTTGGATCGGCTGATGAATC
rh. 51-E	1246	TACACTTTTCGAGGACGTTGCCCTTCCACAGCAGCTACGCTCACAGCCAGAGTTTGGATCGGCTGATGAATC
hu. 39-E	1246	TACACTTTTCGAGGACGTTGCCCTTCCACAGCAGCTACGCTCACAGCCAGAGTTTGGATCGGCTGATGAATC
rh. 53-E	1246	TACACTTTTCGAGGACGTTGCCCTTCCACAGCAGCTACGCTCACAGCCAGAGTTTGGATCGGCTGATGAATC
hu. 37-E	1246	TACACTTTTCGAGGACGTTGCCCTTCCACAGCAGCTACGCTCACAGCCAGAGTTTGGATCGGCTGATGAATC
rh. 43-E	1243	TACACCTTCGAGGACGTTGCCCTTCCACAGCAGCTACGCTCACAGCCAGAGTTTGGATCGGCTGATGAATC
rh. 50-E	1246	TACACTTTTCGAGGACGTTGCCCTTCCACAGCAGCTACGCTCACAGCCAGAGTTTGGATCGGCTGATGAATC
rh. 49-E	1246	TACACTTTTCGAGGACGTTGCCCTTCCACAGCAGCTACGCTCACAGCCAGAGTTTGGATCGGCTGATGAATC
rh. 61-E	1246	TACCCCTTTCGAGGACGTTGCCCTTCCACAGCAGCTACGCTCACAGCCAGAGTTTGGATCGGCTGATGAATC

FIG. 3A2

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hu. 41-E	1246	TACACCTTCGAGGACGTGCCTTTCCACAGCAGCTACGCCACACAGCCAGAGCTTGACCGACTGATGAATC	1340	1350	1360	1370	1380	1390	1400
rh. 64-E	1246	TACACCTTCGAGGACGTGCCTTTCCACAGCAGCTACGCCACACAGCCAGAGTTTGGACAGGCTGATGAATC							
hu. 42-E	1246	TACACCTTCGAGGACGTGCCTTTCCACAGCAGCTACGCCACACAGCCAGAGCTTGACCGACTGATGAATC							
rh. 57-E	1246	TACACCTTCGAGGACGTGCCTTTCCACAGCAGCTACGCCACACAGCCAGAGTTTGGACAGGCTGATGAATC							
hu. 40-E	1246	TACACCTTCGAGGACGTGCCTTTCCACAGCAGCTACGCCACACAGCCAGAGCTTGACCGACTGATGAATC							
AAV8-E	1246	TACACCTTCGAGGACGTGCCTTTCCACAGCAGCTACGCCACACAGCCAGAGCTTGACCGGCTGATGAATC							
rh. 58-E	1246	TACACCTTCGAGGACGTGCCTTTCCACAGCAGCTACGCCACACAGCCAGAGTTTGGACAGGCTGATGAATC							
rh. 40-E	1246	TACACCTTCGAGGACGTGCCTTTCCACAGCAGCTACGCCACACAGCCAGAGCTTGACCGACTGATGAATC							
hu. 67-E	1246	TACACCTTCGAGGACGTGCCTTTCCACAGCGGCTACGCCACACAGCCAGAGCTTGACCGACTGATGAATC							
hu. 17-E	1246	TACCAGTTTGAGGACGTGCCTTTTCACAGCAGCTACGCCGATAGCCAAAGCCTGGACCGGCTGATGAACC							
hu. 6-E	1246	TACCAGTTTGAGGACGTGCCTTTTCACAGCAGCTACGCCGATAGCCAAAGCCTGGACCGGCTGATGAACC							
hu. 66-E	1246	TACACCTTCGAGGACGTGCCTTTCCACAGCAGCTGCGCACACAGCCAGAGCTCGGACCGACTGATGAATC							
rh. 38-E	1246	TACACCTTCGAGGACGTGCCTTTCCACAGCAGCTACGCCACACAGCCAGAGCTTGACCGACTGATGAATC							
hu. 32-F	1243	TACGAGTTTGAGAACGTACCTTTCCATAGCAGCTACGCTCACAGCCAAAGCCTTGACCGACTAATGAATC							
AAV9/hu	1243	TACGAGTTTGAGAACGTACCTTTCCATAGCAGCTACGCTCACAGCCAAAGCCTTGACCGACTAATGAATC							
hu. 31-F	1243	TACGAGTTTGAGAACGTACCTTTCCATAGCAGCTACGCTCACAGCCAAAGCCTTGACCGACTAATGAATC							
								
AAV5	1286	CGCTGGTGACCACTACTGTACCGCTTCGTGAGCACAAAT----- ----- ----- ----- -----							
AAV3-3	1307	CTCTTATTGATCAGTATCTGTACTACCTGAACAGAACGCAAGGAACAACCTCTGGAACAACCAACCAATC							
AAV4-4	1289	CTCTCATCGACCACTACCTGTGGGACTGCAATCGACCCACCACCGGAACCAACCTGAATGCCGGGACTGC							
AAV1-A	1310	CTCTCATCGACCAATACTGTATTACCTGAACAGAACTCAA---AATCAGTCCGGAAGTGCCCAAAACAA							
hu. 46-A	1310	CTCTCATCGACCAATACTGTATTACCTGAACAGAACTCAA---AATCAGTCCGGAAGTGCCCAAAACAG							
hu. 48-A	1310	CTCTCATCGACCAATACTGTATTACCTGAACAGAACTCAA---AATCAGTCCGGAAGTGCCCAAAACAA							
hu. 44-A	1310	CTCTCATCGACCAATACTGTATTACCCGAACAGAACTCAA---AATCAGTCCGGAAGTGCCCAAAACAA							
hu. 43-A	1313	CTCTCATCGTCCAATACTGTATTACCTGAACAGAACTCAA---AATCAGTCCGGAAGTGCCCAAAACAA							
AAV6-A	1310	CTCTCATCGACCACTACCTGTATTACCTGAACAGAACTCAG---AATCAGTCCGGAAGTGCCCAAAACAA							
hu. 34-B	1307	CTCTCATCGACCACTACCTGTATTACTTGAGCAGAACAAAC---ACTCCAAGTGAACCAACCAACGACGTC							
hu. 47-B	1307	CTCTCATCGACCACTACCTGTATTACTTGAGCACAACAAAC---ACTCCAAGTGAACCAACCAACGACGTC							

FIG. 3BA

hu. 29-B 1307 CTCTCATCGACCGAGTACCTGTATTACTTGAGCAGAAACAAAC---ACTCCAAGCGGGAACCAACCAACGCGAGTC
 hu. 63-B 1307 CTCTCATCGACCGAGTACCTGTATTACTTGAGCAGAAACAAAC---ACTCCAAGCGGGAACCAACCAACGCGAGTC
 hu. 56-B 1307 CTCTCATCGACCGAGTACCTGTATTACTTGAGCAGAAACAAAC---ACTCCAAGCGGGAACCAACCAACGCGAGTC
 hu. 45-B 1307 CTCTCATCGACCGAGTACCTGTATTACTTGAGCAGAAACAAAC---ACTCCAAGCGGGAACCAACCAACGCGAGTC
 hu. 57-B 1304 CTCTCATCGACCGAGTACCTGTATTACTTGAGCAGAAACAAAC---ACTCCAAGCGGGAACCAACCAACGCGAGTC
 hu. 35-B 1307 CTCTCATCGACCGAGTACCTGTATTACTTGAGCAGAAACAAAC---ACTCCAAGCGGGAACCAACCAACGCGAGTC
 hu. 58-B 1307 CTCTCATCGACCGAGTACCTGTATTACTTGAGCAGAAACAAAC---ACTCCAAGCGGGAACCAACCAACGCGAGTC
 hu. 28-B 1307 CTCTCATCGACCGAGTACCTGTATTACTTGAGCAGAAACAAAC---ACTCCAAGCGGGAACCAACCAACGCGAGTC
 hu. 51-B 1307 CTCTCATCGACCGAGTACCTGTATTACTTGAGCAGAAACAAAC---ACTCCAAGCGGGAACCAACCAACGCGAGTC
 hu. 19-B 1307 CTCTCATCGACCGAGTACCTGTATTACTTGAGCAGAAACAAAC---ACTCCAAGCGGGAACCAACCAACGCGAGTC
 hu. 49-B 1307 CTCTCATCGACCGAGTACCTGTATTACTTGAGCAGAAACAAAC---ACTCCAAGCGGGAACCAACCAACGCGAGTC
 hu. 52-B 1307 CTCTCATCGACCGAGTACCTGTATTACTTGAGCAGAAACAAAC---ACTCCAAGCGGGAACCAACCAACGCGAGTC
 hu. 13-B 1307 CTCTCATCGACCGAGTACCTGTATTACTTGAGCAGAAACAAAC---ACTCCAAGCGGGAACCAACCAACGCGAGTC
 AAV2-B 1307 CTCTCATCGACCGAGTACCTGTATTACTTGAGCAGAAACAAAC---ACTCCAAGCGGGAACCAACCAACGCGAGTC
 hu. 20-B 1307 CTCTCATCGACCGAGTACCTGTATTACTTGAGCAGAAACAAAC---ACTCCAAGCGGGAACCAACCAACGCGAGTC
 hu. 24-B 1307 CTCTCATCGACCGAGTACCTGTATTACTTGAGCAGAAACAAAC---ACTCCAAGCGGGAACCAACCAACGCGAGTC
 hu. 64-B 1307 CTCTCATCGACCGAGTACCTGTATTACTTGAGCAGAAACAAAC---ACTCCAAGCGGGAACCAACCAACGCGAGTC
 hu. 27-B 1307 CTCTCATCGACCGAGTACCTGTATTACTTGAGCAGAAACAAAC---ACTCCAAGCGGGAACCAACCAACGCGAGTC
 hu. 21-B 1307 CTCTCATCGACCGAGTACCTGTATTACTTGAGCAGAAACAAAC---ACTCCAAGCGGGAACCAACCAACGCGAGTC
 hu. 22-B 1307 CTCTCATCGACCGAGTACCTGTATTACTTGAGCAGAAACAAAC---ACTCCAAGCGGGAACCAACCAACGCGAGTC
 hu. 23-B 1307 CTCTCATCGACCGAGTACCTGTATTACTTGAGCAGAAACAAAC---ACTCCAAGCGGGAACCAACCAACGCGAGTC
 hu. 7-C 1307 CTCTCATCGACCGAGTACCTGTATTACTTGAGCAGAAACAAAC---TCAAATAGTGGAACTCTTCAGCAGTC
 hu. 61-C 1307 CTCTCATCGACCGAGTACCTGTATTACTTGAGCAGAAACAAAC---ACAAATAGTGGAACTCTTCAGCAGTC
 rh. 56-C 1307 CTCTCATCGACCGAGTACCTGTATTACTTGAGCAGAAACAAAC---TCAAATAGTGGAGCTCTTCAGCAGTC
 hu. 9-C 1307 CTCTCATCGACCGAGTACCTGTATTACTTGAGCAGAAACAAAC---TCAAATAGTGGAACTCTTCAGCAGTC
 hu. 54-C 1307 CTCTCATCGACCGAGTACCTGTATTACTTGAGCAGAAACAAAC---ACAGCTAGTGGAACT---CAGCAGTC
 hu. 53-C 1307 CTCTCATCGACCGAGTACCTGTATTACTTGAGCAGAAACAAAC---ACAGCTAGTGGAACT---CAGCAGTC
 hu. 60-C 1307 CTCTCATCGACCGAGTACCTGTATTACTTGAGCAGAAACAAAC---ACAAATAGTGGAACTCTTCAGCAGTC
 hu. 55-C 1307 CTCTCATCGACCGAGTACCTGTATTACTTGAGCAGAAACAAAC---ACAGCTAGTGGAACT---CAGCAGTC
 hu. 2-C 1307 CTCTCATCGACCGAGTACCTGTATTACTTGAGCAGAAACAAAC---ACAAATAGTGGAACTCTTCAGCAGTC

FIG. 3BB

hu.1-C 1307 CTCTGATCGACCGAGTACCTGTATTATCTGAACAAGACACAA---ACAAATAGTGGAACCTCTTCAGCAGTC
 hu.18-C 1307 CTCTGATCGACCGAGTACCTATATATCTGAACAAGACACAA---TCAAATAGTGGAACCTCTTCAGCAGTC
 hu.3-C 1310 CTCTGATCGACCGAGTACCTGTATTATCTGAACAAGACACAA---ACAAATAGTGGAACCTCTTCAGCAGTC
 hu.25-C 1307 CTCTGATCGACCGAGTACCTGTATTATCTGAACAAGACACAA---ACAAATAGTGGAACCTCTTCAGCAGTC
 hu.15-C 1307 CTCTGATCGACCGAGTACCTGTATTATCTGAACAAGACACAA---TCAAATAGTGGAACCTCTTCAGCAGTC
 hu.16-C 1307 CTCTGATCGACCGAGTACCTGTATTATCTGAACAAGACACAA---TCAAATAGTGGAACCTCTTCAGCAGTC
 hu.11-C 1307 CTCTGATCGACCGAGTACCTGTATTATCTGAACAAGACACAA---TCAAATAGTGGAACCTCTTCAGCAGTC
 hu.10-C 1307 CTCTGATCGACCGAGTACCTGTATTATCTGAACAAGACACAA---TCAAATAGTGGAACCTCTTCAGCAGTC
 hu.4-C 1307 CTCTGATCGACCGAGTACCTGTATTATCTGAACAAGACACAA---ACAAATAGTGGAACCTCTTCAGCAGTC
 rh.54-D 1313 CCTCATCGACCGAGTACCTGTATTACCTGGCTAGAACACAGAGTAACCCAGGAGGCACATCTGGCAATCG
 rh.48-D 1313 CTCTTATCGACCGAGTACCTGTATTACCTGGCCAGAACACAGAGCAACGCGAGGACACAGCTGGCAATCG
 rh.55-D 1313 CTCTTATCGACCGAGTACCTGTATTACCTGGCCAGAACACAGAGCAACGCGAGGACACAGCTGGCAATCG
 rh.62-D 1313 CTCTTATCGACCGAGTACCTGTATTACCTGGCCAGAACACAGAGTAACCCAGGAGGCACAGCTGGCAATCG
 AAV7-D 1313 CCTCATCGACCGAGTACCTGTACTACCTGGCCAGAACACAGAGTAACCCAGGAGGCACAGCTGGCAATCG
 rh.52-E 1316 CTCTCATCGACCGAGTACCTGTACTACCTGTCAAGAACCCAGTCT---ACGGGAGGCACAGCGGGAAACCCA
 rh.51-E 1316 CTCTCATCGACCGAGTACCTGTACTACCTGTCAAGAACCCAGTCT---ACGGGAGGCACAGCGGGAAACCCA
 hu.39-E 1316 CTCTCATCGACCGAGTACCTGTACTACCTGTCAAGAACCCAGTCT---ACGGGAGGCACAGCGGGAAACCCA
 rh.53-E 1316 CTCTCATCGACCGAGTACCTGTACTACCTGTCAAGAACCCAGTCT---ACGGGAGGCACAGCGGGAAACCCA
 hu.37-E 1316 CTCTCATCGACCGAGTACCTGTACTACTTATCCAGAACTCAGTCC---ACAGGAGGAACCTCAAGGTACCCA
 rh.43-E 1313 CTCTGATTGACCGAGTACCTGTACTACTTGTCTCGGACTCAAACA---ACAGGAGGCACGCGGAAATACGCA
 rh.50-E 1316 CTCTCGTCGACCGAGTACCTGTACTACCTGTCAAGAACCCAGTCT---ACGGGAGGCACAGCGGGAAACCCA
 rh.49-E 1316 CTCTCATCGACCGAGTACCTGTACTACCTGTCAAGAACCCAGTCT---ACGGGAGGCACAGCGGGAAACCCA
 rh.61-E 1316 CTCTCATCGACCGAGTACCTGTACTACCTGTCAAGAACCCAGTCT---ACGGGAGGCACAGCGGGAAACCCA
 hu.41-E 1316 CTCTCATCGACCGAGTACCTGTACTACTTATCCAGAACTCAGTCC---ACAGGAGGAACCTCAAGGTACCCA
 rh.64-E 1316 CTCTCATCGACCGAGTACCTGTACTACTTATCCAGAACCCAGTCT---ACGGGAGGCACAGCGGGAAACCCA
 hu.42-E 1316 CTCTCATCGACCGAGTACCTGTACTACTTATCCAGAACTCAGTCC---ACAGGAGGAACCTCAAGGTACCCA
 rh.57-E 1316 CTCTCATCGACCGAGTACCTGTACTACTTATCCAGAACCCAGTCT---ACGGGAGGCACAGCGGGAAACCCA
 hu.40-E 1316 CTCTCATCGACCGAGTACCTGTACTACTTATCCAGAACTCAGTCC---ACAGGAGGAACCTCAAGGTACCCA
 AAV8-E 1316 CTCTGATTGACCGAGTACCTGTACTACTTGTCTCGGACTCAAACA---ACAGGAGGCACGCGGAAATACGCA
 rh.58-E 1316 CTCTCATCGACCGAGTACCTGTACTACTTGTCAAGAACCCAGTCT---ACGGGAGGCACAGCGGGAAACCCA

FIG. 3BC

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rh.40-E	1316	CTCTCATCGACCGAGTACCTGTACTACTTATCCAGAACTCAGTCC--ACAGGAGGAACTCAAGGTACCCA	1410	1420	1430	1440	1450	1460	1470
hu.67-E	1316	CTCTCATCGACCGAGTACCTGTACTACTTATCCAGAACTCAGTCC--ACAGGAGGAACTCAAGGTACCCA							
hu.17-E	1316	CCCTCATCGACCGAGTACCTGTACTACTACCTGTCTCGGACTCAGTCC--ACGGGAGGTACCGCAGGAACTCA							
hu.6-E	1316	CCCTCATCGACCGAGTACCTGTACTACTACCTGTCTCGGACTCAGTCC--ACGGGAGGTACCGCAGGAACTCA							
hu.66-E	1316	CTCTCATCGACCGAGTACCTGTACTACTTATCCAGAACTCGGTCC--ACAGGAGGAACTCAAGGTACCCA							
rh.38-E	1316	CTCTCATCGACCGAGTACCTGTACTACTTATCCAGAACTCAGTCC--ACAGGAGGAACTCAAGGTACCCA							
hu.32-F	1313	CACTCATCGACCAATACTTGTACTATCTCTCAAAGACTATTACGGTCTTGA-----CAGAAATCAACA							
AAV9/hu	1313	CACTCATCGACCAATACTTGTACTATCTCTCAAAGACTATTACGGTCTTGA-----CAGAAATCAACA							
hu.31-F	1313	CACTCATCGACCAATACTTGTACTATCTCTCAAAGACTATTACGGTCTTGA-----CAGAAATCAACA							
AAV5	1335	CGGAGTCCAGTTCAACAAGAACCTGGCCGGGAGATACGCCAACACCTACAAAACCTGGTCCCGGGGCC							
AAV3-3	1377	ACGGCTGCTTTTAGCCAGGCTGGGCTCAGTCTATGTCTTTGCAGGCCAGAAATGGCTACCTGGGCC							
AAV4-4	1359	CACCACCAACTTTACCAAGCTGCGGCTACCAACTTTCCAACTTTAAAGAACTGGCTGCCCGGGCT							
AAV1-A	1377	GGACTTGCTGTTAGCCGTGGTCTCCAGCTGGCATGTCTGTTTCAGCCCAAAAACCTGGTACCTGGACCC							
hu.46-A	1377	GGACTTGCTGTTAGCCGTGGTCTCCAGCTGGCATGTCTGTTTCAGCCCAAAAACCTGGTACCTGGACCC							
hu.48-A	1377	GGACTTGCTGTTAGCCGTGGTCTCCAGCTGGCATGTCTGTTTCAGCCCAAAAACCTGGTACCTGGACCC							
hu.44-A	1377	GGACTTGCTGTTAGCCGTGGTCTCCAGCTGGCATGTCTGTTTCAGCCCAAAAACCTGGTACCTGGACCC							
hu.43-A	1380	GGACTTGCTGTTAGCCGTGGTCTCCAGCTGGCATGTCTGTTTCAGCCCAAAAACCTGGTACCTGGACCC							
AAV6-A	1377	GGACTTGCTGTTAGCCGTGGTCTCCAGCTGGCATGTCTGTTTCAGCCCAAAAACCTGGTACCTGGACCC							
hu.34-B	1374	AAGGCTTCAGTTTCTCAGGCCGGAGCGAGTGACATTCGGGACCACTAGGAACTGGCTTCTGGACCC							
hu.47-B	1374	AAGGCTCCAGTTTCTCAGGCCGGAGCGAGTGACATTCGGGACCACTAGGAACTGGCTTCTGGACCC							
hu.29-B	1374	CAGGCTTCAGTTTCTCAGGCCGGAGCGAGTGACATTCGGGACCACTAGGAACTGGCTTCTGGACCC							
hu.63-B	1374	AAGGCTTCAGTTTCTCAGGCCGGAGCGAGTGACATTCGGGACCACTAGGAACTGGCTTCTGGACCC							
hu.56-B	1374	CAGGCTTCAGTTTCTCAGGCCGGAGCGAGTGACATTCGGGACCACTAGGAACTGGCTTCTGGACCC							
hu.45-B	1374	AAGGCTTCAGTTTCTCAGGCCGGAGCGAGTGACATTCGGGACCACTAGGAACTGGCTTCTGGACCC							
hu.57-B	1371	CAGGCTTCAGTTTCTCAGGCCGGAGCGAGTGACATTCGGGACCACTAGGAACTGGCTTCTGGACCC							
hu.35-B	1374	AAGGCTTCAGTTTCTCAGGCCGGAGCGAGTGACATTCGGGACCACTAGGAACTGGCTTCTGGACCC							
hu.58-B	1374	CAGGCTTCAGTTTCTCAGGCCGGAGCGAGTGACATTCGGGATCAGTCTAGGAACTGGCTTCTGGACCC							

hu. 28-B 1374 CAGGCTTCAGTTTTCTCAGGCCGGAGCGAGTGACATTCAGGACCAGTCTAGGAACTGGCTTCCTGGACCC
 hu. 51-B 1374 AAGGCTTCAGTTTTCTCAGGCCGGAGCGAGTGACATTCGGGACCAGTCTAGGAACTGGCTTCCTGGACCC
 hu. 19-B 1374 CAGGCTTCAGTTTTCTCAGGCCGGAGCAAGTGACATTCGGGACCAGTCTAGAACTGGCTTCCTGGACCC
 hu. 49-B 1374 CAGGCTTCAGTTTTCTCAGGCCGGAGCAAGTGACATTCGGGACCAGTCTAGGAACTGGCTTCCTGGACCC
 hu. 52-B 1374 AAGGCTTCAGTTTTCTCAGGCCGGAGCGAGTGACATTCGGGACCAGTCTAGGAACTGGCTTCCTGGACCC
 hu. 13-B 1374 CAGGCTTCAGTTTTCTCAGGCCGGAGCAAGTGACATTCGGGACCAGTCTAGGAACTGGCTTCCTGGACCC
 AAV2-B 1374 AAGGCTTCAGTTTTCTCAGGCCGGAGCGAGTGACATTCGGGACCAGTCTAGGAACTGGCTTCCTGGACCC
 hu. 20-B 1374 CAGGCTTCAGTTTTCTCAGGCCGGAGCAAGTGACATTCGGGACCAGTCTAGAACTGGCTTCCTGGACCC
 hu. 24-B 1374 CAGGCTTCAGTTTTCTCAGGCCGGAGCAAGTGACATTCGGGACCAGTCTAGAACTGGCTTCCTGGACCC
 hu. 64-B 1374 AAGGCTTCAGTTTTCTCAGGCCGGAGCAAGTGACATTCGGGACCAGTCTAGGAACTGGCTTCCTGGACCC
 hu. 27-B 1374 CAGGCTTCAGTTTTCTCAGGCCGGAGCAAGTGACGTTCTGGGACCAGTCTAGAACTGGCTTCCTGGACCC
 hu. 21-B 1374 CAGGCTTCAGTTTTCTCAGGCCGGAGCAAGTGACATTCGGGACCAGTCTAGAACTGGCTTCCTGGACCC
 hu. 22-B 1374 CAGGCTTCAGTTTTCTCAGGCCGGAGCAAGTGACATTCGGGACCAGTCTAGAACTGGCTTCCTGGACCC
 hu. 23-B 1374 CAGGCTTCAGTTTTCTCAGGCCGGAGCAAGTGACATTCGGGACCAGTCTAGAACTGGCTTCCTGGACCC
 hu. 7-C 1374 TCGGCTACTGTTAGTCAAGCTGGACCCACCAGCATGTCTCTCAAGCTAAAACTGGCTACCTGGACCT
 hu. 61-C 1374 TCGGCTACTGTTAGCCAAAGCTGGACCCACCACATGTCTCTTCAAGCTAAAAACCGCTGCCCTGGACCT
 rh. 56-C 1374 TCGGCTACTGTTAGTCAAGCTGGACCCACCAGCATGTCTCTTCAAGCTAAAACTGGCTACCTGGACCT
 hu. 9-C 1374 TAGGCTACTGTTAGCCAAAGCTGGACCCACCAGCATGTCTCTTCAAGCTAAAACTGGCTGCCCTGGACCT
 hu. 54-C 1371 TCGGCTACTGTTAGCCAAAGCTGGACCCACCAGCATGTCTCTTCAAGCTAAAACTGGCTGCCCTGGACCG
 hu. 53-C 1371 TCGGCTACTGTTAGCCAAAGCTGGACCCACCAGCATGTCTCTTCAAGCTAAAACTGGCTGCCCTGGACCG
 hu. 60-C 1374 TCGGCTACTGTTAGCCAAAGCTGGACCCACCAGCATGTCTCTTCAAGCTAAAACTGGCTGCCCTGGACCT
 hu. 55-C 1371 TCGGCTACTGTTAGCCAAAGCTGGACCCACCAGCATGTCTCTTCAAGCTAAAACTGGCTGCCCTGGACCG
 hu. 2-C 1374 TCGGCTACTGTTAGCCAAAGCTGGACCCACCAGCATGTCTCTTCAAGCTAAAACTGGCTGCCCTGGACCT
 hu. 1-C 1374 TCGGCTACTGTTAGCCAAAGCTGGACCCACCAGCATGTCTCTTCAAGCTAAAACTGGCTGCCCTGGACCT
 hu. 18-C 1374 TCGGCTACTGTTAGCCAAAGCTGGACCCACCAGCATGTCTCTTCAAGCTAAAACTGGCTGCCCTGGACCT
 hu. 3-C 1377 TCGGCTACTGTTAGCCAAAGCTGGACCCACCAGCATGTCTCTTCAAGCTAAAACTGGCTGCCCTGGACCT
 hu. 25-C 1374 TCGGCTACTGTTAGCCAAAGCTGGACCCACCAGCATGTCTCTTCAAGCTAAAACTGGCTGCCCTGGACCT
 hu. 15-C 1374 TCGGCTACTGTTAGCCAAAGCTGGACCCACCAGCATGTCTCTTCAAGCTAAAACTGGCTGCCCTGGACCT
 hu. 16-C 1374 TCGGCTACTGTTAGCCAAAGCTGGACCCACCAGCATGTCTCTTCAAGCTAAAACTGGCTGCCCTGGACCT
 hu. 11-C 1374 TAGGCTACTGTTAGCCAAAGCTGGACCCACCAGCATGTCTCTTCAAGCTAAAACTGGCTGCCCTGGACCT

hu. 10-C	1374	TAGGCTACTGTTTAGCCAAAGCTGGACCCACAGCATGTCTCTTCAAGCTAAAAAAGCTGGCTGCCTGGACCT
hu. 4-C	1374	TCGGCTACTGTTTAGCCAAAGCTGGACCAACCAACATGTCTCTTCAAGCTAAAAAAGCTGGCTGCCTGGACCT
rh. 54-D	1383	GGAAGTGCAGTTTACCAGGGCGGGCTTCCACCATGGCCGAACAAGCCAGAACTGGTTACCTGGACCT
rh. 48-D	1383	GGAAGTGCAGTTTATCAGGGCGGGCTTACCACCATGGCCGAACAAGCCAGAACTGGCTGCCTGGACCT
rh. 55-D	1383	GGAAGTGCAGTTTATCAGGGCGGGCTTACCACCATGGCCGAACAAGCCAGAACTGGCTGCCTGGACCT
rh. 62-D	1383	GGAAGTGCAGTTTATCAGGGCGGGCTTACCACCATGGCCGAACAAGCCAGAACTGGCTGCCTGGACCT
AAV7-D	1383	GGAAGTGCAGTTTACCAGGGCGGGCTTCAACTATGGCCGAACAAGCCAGAACTGGTTACCTGGACCT
rh. 52-E	1383	GCAGTTGCTGTCTTCTCAGGCCGGGCTTAGCAACATGTGGCTCAGGCCAGAACTGGCTGCCTGGACCC
rh. 51-E	1383	GCAGTTGCTGTTTCTCAGGCCGGGCTTAGCAACATGTGGCTCAGGCCAGAACTGGCTGCCTGGACCC
hu. 39-E	1383	GCAGTTGCTGTTTCTCGGGCGGGCTTAGCAACATGTGGCTCAGGCCAGAACTGGCTGCCTGGACCC
rh. 53-E	1383	GCAGTTGCTGTTTCTCAGGCCGGGCTTAGCAACATGTGGCTCAGGCCAGAACTGGCTGCCTGGACCC
hu. 37-E	1383	GCAATTGTTATTTTCTCAAGCTGGGCTGCAACATGTGGCTCAGGCTAAGAACTGGCTACCTGGACCT
rh. 43-E	1380	GACTCTGGCTTCAGCCAAAGTGGGCTAATACAATGGCCAATCAGGCAAGAACTGGCTGCCAGGACCC
rh. 50-E	1383	GCAGTTGCTGTTTCTCAGGCCGGGCTTAGCAACATGTGGCTCAGGCCAGAACTGGCTGCCTGGACCC
rh. 49-E	1383	GCAGTTGCTGTTTCTCAGGCCGGGCTTAGCAACATGTGGCTCAGGCCAGAACTGGCTGCCTGGACCC
rh. 61-E	1383	GCAGTTGCTGTTTCTCAGGCCGGGCTTAGCAACATGTGGCTCAGGCCAGAACTGGCTGCCTGGACCC
hu. 41-E	1383	GCAATTGTTATTTTCTCAAGCTGGGCTGCAACATGTGGCTCAGGCTAAGAACTGGCTACCTGGACCT
rh. 64-E	1383	GCAGTTGCTGTTTCTCAGGCCGGGCTTAGCAACATGTGGCTCAGGCCAGAACTGGCTGCCTGGACCC
hu. 42-E	1383	GCAATTGTTATTTTCTCAAGCTGGGCTGCAACATGTGGCTCAGGCTAAGAACTGGCTACCTGGACCT
rh. 57-E	1383	GCAGTTGCTGTTTCTCAGGCCGGGCTTAGCAACATGTGGCTCAGGCCAGAACTGGCTGCCTGGACCC
hu. 40-E	1383	GCAATTGTTATTTTCTCAAGCTGGGCTGCAACATGTGGCTCAGGCTAAGAACTGGCTACCTGGACCT
AAV8-E	1383	GACTCTGGCTTCAGCCAAAGTGGGCTAATACAATGGCCAATCAGGCAAGAACTGGCTGCCAGGACCC
rh. 58-E	1383	GCAGCTGCTGTTTCTCAGGCCGGGCTTAGCAACATGTGGCTCAGGCCAGAACTGGCTGCCTGGACCC
rh. 40-E	1383	GCAATTGTTATTTTCTCAAGCTGGGCTGCAACATGTGGCTCAGGCTAAGAACTGGCTACCTGGACCT
hu. 67-E	1383	GCAATTGTTATTTTCTCAAGCTGGGCTGCAACATGTGGCTCAGGCTAAGAACTGGCTACCTGGACCT
hu. 17-E	1383	GCAGTTGCTATTTTCTCAGGCCGGGCTAATAACATGTGGCTCAGGCCAGAACTGGCTACCCGGGCCC
hu. 6-E	1383	GCAGTTGCTATTTTCTCAGGCCGGGCTAATAACATGTGGCTCAGGCCAGAACTGGCTACCCGGGCCC
hu. 66-E	1383	GCAATTGTTATTTTCTCAAGCTGGGCTGCAACATGTGGCTCAGGCTAAGAACTGGCTACCTGGACCT
rh. 38-E	1383	GCAATTGTTATTTTCTCAAGCTGGGCTGCAACATGTGGCTCAGGCTAAGAACTGGCTACCTGGACCT
hu. 32-F	1377	AACGCTAAAAATTCAGCGTGGCCGACCCAGCAACATGGCTGTCCAGGGAAGAACTACATACCTGGACCC

FIG. 3B

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AAV9/hu	1377	AACGCTAAAAATTCAGTGTGGCCGGACCCAGCAACATGGCTGTCCAGGGAAGAACTACATACCTGGACCC	1480	1490	1500	1510	1520	1530	1540
hu.31-F	1377	AACGCTAAAAATTCAGTGTGGCCGGACCCAGCAACATGGCTGTCCAGGGAAGAACTACATACCTGGACCC							
								
AAV5	1405	ATGGGCCGAACCCAGGGCTGGAACCTGGGCTCCGGGTCAAC-----CGCGCCAGTGTCA							
AAV3-3	1447	TGCTACCGGCAACAGAGACTTTCAAAGACTGCTAACGACAAC-----AACAAACAGTAACT							
AAV4-4	1429	TCAATCAAGCAGCAGGGGCTTCTCAAAGACTGCCAATCAAAACTACAAGATCCCTGCCACCGGTGAGACA							
AAV1-A	1447	TGTTATCGGCAGCAGCGCGTTTCTAAACAAACAGACAAC-----AACAAACAGCAATT							
hu.46-A	1447	TGTTATCGGCAGCAGCGCGTTTCTAAACAAACAGACAAC-----AACAAACAGCAATT							
hu.48-A	1447	TGTTATCGGCAGCAGCGCGTTTCTAAACAAACAGACAAC-----AACAAACAGCAATT							
hu.44-A	1447	TGTTATCGGCAGCAGCGCGTTTCTAAACAAACAGACAAC-----AACAAACAGCAATT							
hu.43-A	1450	TGTTATCGGCAGCAGCGCGTTTCTAAACAAACAGACAAC-----AACAAACAGCAATT							
AAV6-A	1447	TGTTACCGGCAGCAGCGCGTTTCTAAACAAACAGACAAC-----AACAAACAGCAACT							
hu.34-B	1444	TGTTACCGGCAGCAGCGAGTATCAAAGACATCTGCGGATAAC-----AACAAACAGTGAAT							
hu.47-B	1444	TGTTACCGGCAGCAGCGAGTATCAAAGACATCTGCGGATAAC-----AACAAACAGTGAAT							
hu.29-B	1444	TGTTACCGTCAGCAGCGAGTATCAAAGACATCTGCGGATAAC-----AACAAACAGTGAAT							
hu.63-B	1444	TGTTACCGGCAGCAGCGAGTATCAAAGACATCTGCGGATAAC-----AACAAACAGTGAAT							
hu.56-B	1444	TGTTACCGGCAGCAGCGAGTATCAAAGACAGCTGCGGATAAC-----AACAAACAGTGAAT							
hu.45-B	1444	TGTTACCGGCAGCAGCGAGTATCAAAGACATCTGCGGATAAC-----AACAAACAGTGAAT							
hu.57-B	1441	TGTTACCGGCAGCAGCGAGTATCAAAGACAGCTGCGGATAAC-----AACAAACGGTGAAT							
hu.35-B	1444	TGTTACCGGCAGCAGCGAGTATCAAAGACATCTGCGGATAAC-----AACAAACAGTGAAT							
hu.58-B	1444	TGTTACCGGCAGCAGCGAGTATCAAAGACATCTGCGGATAAC-----AACAAACAGTGAAT							
hu.28-B	1444	TGTTACCGTCAGCAGCGAGTATCAAAGACATCTGCGGATAAC-----AACAAACAGTGAAT							
hu.51-B	1444	TGTTACCGGCAGCAGCGAGTATCAAAGACATCTGCGGATAAC-----AACAAACAGTGAAT							
hu.19-B	1444	TGTTACCGGCAGCAGCGAGTATCAAAGACAGCTGCGGATAAC-----AACAAACAGTGAAT							
hu.49-B	1444	TGTTACCGGCAGCAGCGAGTATCAAAGACAGCTGCGGATAAC-----AACAAACAGTGAAT							
hu.52-B	1444	TGTTACCGGCAGCAGCGAGTATCAAAGACATCTGCGGATAAC-----AACAAACAGTGAAT							
hu.13-B	1444	TGTTACCGGCAGCAGCGAGTATCAAAGACATCTGCGGATAAC-----AACAAACAGTGAAT							
AAV2-B	1444	TGTTACCGGCAGCAGCGAGTATCAAAGACATCTGCGGATAAC-----AACAAACAGTGAAT							

FIG. 3BG

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hu. 20-B	1444	TGTTACCGCCAGCAGCGAGTATCAAAGACAGCTGCGGACAAC	-----AACAAACAGTGATT
hu. 24-B	1444	TGTTACCGCCAGCAGCGAGTATCAAAGACAGCTGCGGACAAC	-----AACAAACAGTGATT
hu. 64-B	1444	TGTTACCGCCAGCAGCGAGTATCAAAGACATCTGCGGATAAC	-----AACAAACAGTGAAT
hu. 27-B	1444	TGTTACCGCCAGCAGCGAGTATCAAAGACAGCTGCGGACAAC	-----AACAAACAGTGATT
hu. 21-B	1444	TGTTACCGCCAGCAGCGAGTATCAAAGACAGCTGCGGACAAC	-----AACAAACAGTGATT
hu. 22-B	1444	TGTTACCGCCAGCAGCGAGTATCAAAGACAGCTGCGGACAAC	-----AACAAACAGTGATT
hu. 23-B	1444	TGTTACCGCCAGCAGCGAGTATCAAAGACAGCTGCGGACAAC	-----AACAAACAGTGATT
hu. 7-C	1444	TGCTACAGACAGCAGCGCTGTCAAAGCAGGCAACGACAAC	-----AACAAACAGCAACT
hu. 61-C	1444	TGCTACAGACAGCAGCGCTGTCAAAGCAGGCAACGACAAC	-----AACAAACAGCAACT
rh. 56-C	1444	TGCTACAGACAGCAGCGCTGTCAAAGCAGGCAACGACAAC	-----AACAAACAGCAACT
hu. 9-C	1444	TGCTACAGACAGCAGCGCTGTCAAAGCAGGCAACGACAAC	-----AACAAACAGCAACT
hu. 54-C	1441	TGTTATCGCCAGCAGCGTTTGTCAAAGCAGGCAACGACAAC	-----AACAAACAGCAACT
hu. 53-C	1441	TGTTATCGCCAGCAGCGTTTGTCAAAGCAGGCAACGACAAC	-----AACAAACAGCAACT
hu. 60-C	1444	TGCTACAGACAGCAGCGCTGTCAAAGCAGGCAACGACAAC	-----AACAAACAGCAACT
hu. 55-C	1441	TGTTATCGCCAGCAGCGTTTGTCAAAGCAGGCAACGACAAC	-----AACAAACAGCAACT
hu. 2-C	1444	TGCTACAGACAGCAGCGCTGTCAAAGCAGGCAACGACAAC	-----AACAAACAGCAACT
hu. 1-C	1444	TGCTACAGACAGCAGCGCTGTCAAAGCAGGCAACGACAAC	-----AACAAACAGCAACT
hu. 18-C	1444	TGCTACAGACAGCAGCGCTGTCAAAGCAGGCAACGACAAC	-----AACAAACAGCAACT
hu. 3-C	1447	TGCTACAGACAGCAGCGCTGTCAAAGCAGGCAACGACAAT	-----AACAACTGCAACT
hu. 25-C	1444	TGCTACAGACAGCAGCGCTGTCAAAGCAGGCAACGACAAC	-----AACAAACAGCAACT
hu. 15-C	1444	TGCTACAGACAGCAGCGCTGTCAAAGCAGGCAACGACAAC	-----AACAAACAGCAACT
hu. 16-C	1444	TGCTACAGACAGCAGCGCTGTCAAAGCAGGCAACGACAAC	-----AACAAACAGCAACT
hu. 11-C	1444	TGCTACAGACAGCAGCGCTTCAAAGCAGGCAACGACAAC	-----AACAAACAGCAACT
hu. 10-C	1444	TGCTACAGACAGCAGCGCTTCAAAGCAGGCAACGACAAC	-----AACAAACAGCAACT
hu. 4-C	1444	TGCTACAGACAGCAGCGCTGTCAAAGCAGGCAACGACAAC	-----AACAAACAGCAACT
rh. 54-D	1453	TGCTCCGGCAACAAGAGTTTCCAAAACACTGGATCAAAAC	-----AACAAACAGCAACT
rh. 48-D	1453	TGCTCCGGCAACAAGAGTCTCCAAGACGCTGGATCAAAAC	-----AACAAACAGCAACT
rh. 55-D	1453	TGCTCCGGCAACAAGAGTCTCCAAGACGCTGGATCAAAAC	-----AACAAACAGCAACT
rh. 62-D	1453	TGCTCCGGCAACAAGAGTCTCCAAGACGCTGGATCAAAAC	-----AACAAACAGCAACT
AAV7-D	1453	TGCTCCGGCAACAAGAGTCTCCAAGACGCTGGATCAAAAC	-----AACAAACAGCAACT

FIG. 3BH

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rh. 52-E	1453	TGCTACAGACAGCAGCGCGTCTCCACGACACTGTGCGAAAAC	1550	1560	1570	1580	1590	1600	1610
rh. 51-E	1453	TGCTACAGACAGCAGCGCGTCTCCACGACACTGTGCGAAAAC							
hu. 39-E	1453	TGCTACAGACAGCAGCGCGTCTCCACGACACTGTGCGAAAAC							
rh. 53-E	1453	TGCTACAGACAGCAGCGCGTCTCCACGACACTGTGCGAAAAC							
hu. 37-E	1453	TGCTACCGGCAGCAGCGAGTCTCTACGACACTGTGCGAAAAC							
rh. 43-E	1450	TGTTACCGCCAACAACGGGTCTCAACGACAACCGGGCAAAAAC							
rh. 50-E	1453	TGCTACAGACAGCAGCGCGTCTCCACGACACTGTGCGAAAAC							
rh. 49-E	1453	TGCTACAGACAGCAGCGCGTCTCCACGACACTGTGCGAAAAC							
rh. 61-E	1453	TGCTACAGACAGCAGCGCGTCTCCACGACACTGTGCGAAAAC							
hu. 41-E	1453	TGCTACCGGCAGCAGCGAGTCTCTACGACACTGTGCGAAAAC							
rh. 64-E	1453	TGCTACAGACAGCAGCGCGTCTCCACGACACTGTGCGAAAAC							
hu. 42-E	1453	TGCTACCGGCAGCAGCGAGTCTCTACGACACTGTGCGAAAAC							
rh. 57-E	1453	TGCTACAGACAGCAGCGCGTCTCCACGACACTGTGCGAAAAC							
hu. 40-E	1453	TGCTACCGGCAGCAGCGAGTCTCTACGACACTGTGCGAAAAC							
AAV8-E	1453	TGTTACCGCCAACAACGGGTCTCAACGACAACCGGGCAAAAAC							
rh. 58-E	1453	TGCTACAGACAGCAGCGCGTCTCCACGACACTGTGCGAAAAC							
rh. 40-E	1453	TGCTACCGGCAGCAGCGAGTCTCTACGACACTGTGCGAAAAC							
hu. 67-E	1453	TGCTACCGGCAGCAGCGAGTCTCTACGACACTGTGCGAAAAC							
hu. 17-E	1453	TGCTACCGGCAGCAACGGGTCTCCACGACACTGTGCGAAAAC							
hu. 6-E	1453	TGCTACCGGCAGCAACGGGTCTCCACGACACTGTGCGAAAAC							
hu. 66-E	1453	TGCTACCGGCAGCAGCGAGTCTCTACGACACTGTGCGAAAAC							
rh. 38-E	1453	TGCTACCGGCAGCAGCGAGTCTCTACGACACTGTGCGAAAAC							
hu. 32-F	1447	AGTACCGACAACAACGTGTCTCAACCACTGTGACTCAAAAAC							
AAV9/hu	1447	AGTACCGACAACAACGTGTCTCAACCACTGTGACTCAAAAAC							
hu. 31-F	1447	AGTACCGACAACAACGTGTCTCAACCACTGTGACTCAAAAAC							
AAV5	1460	GCGCCTTCGCCACGACCAATAGGATGGAGCTCGAGGGCGCGAGTTACCGAGTGCCCCCGCAGCGCAACGG							
AAV3-3_	1502	TTCCCTGGACAGCGGCCAGCAAAATATCATCTCAATGGCCGCGACTCGCTGGTGAATCCAGGACCCAGCTAT							

FIG. 3BI

AAV4-4- 1499 GTCTCATCAAAATACGAGACGCACAGCACTCTGGACGGAAGATGGAGTGCCCTGACCCCCGGACCTCCAAT
 AAV1-A- 1502 TTACCTGGACTGGTGCTTCAAAATATAACCTCAATGGGCGTGAATCCATCAACCCCTGGCACTGCTAT
 hu.46-A 1502 TTACCTGGACTGGTGCTTCAAAATATAACCTCAATGGGCGTGAATCCATCAACCCCTGGCACTGCTAT
 hu.48-A 1502 TTACCTGGACTGGTGCTTCAAAATATAACCTCAATGGGCGTGAATCCATCAACCCCTGGCACTGCTAT
 hu.44-A 1502 TTACCTGGACTGGTGCTTCAAAATATAACCTCAATGGGCGTGAATCCATCAACCCCTGGCACTGCTAT
 hu.43-A 1505 TTACCTGGACTGGTGCTTCAAAATATAACCTCAATGGGCGTGAATCCATCAACCCCTGGCACTGCTAT
 AAV6-A 1502 TTACCTGGACTGGTGCTTCAAAATATAACCTTAATGGGCGTGAATCTATAATCAACCCCTGGCACTGCTAT
 hu.34-B 1499 ACTCGTGGACTGGAGCTACCAAGTACCACCTCAATGGCAGAGACTCTCTGGTGAATCCGGGCCCCGGCCAT
 hu.47-B 1499 ACTCGTGGACTGGAGCTACCAAGTACCACCTCAATGGCAGAGACTCTCTGGTGAATCCGGGCCCCGGCCAT
 hu.29-B 1499 ACTCGTGGACTGGAGCTACCAAGTACCACCTCAATGGCAGAGACTCTCTGGTGAATCCGGGCCCCGGCCAT
 hu.63-B 1499 ACTCGTGGACTGGAGCTACCAAGTACCACCTTAATGGAAGAGACTCTCTGGTGAATCCGGGCCCCGGCCAT
 hu.56-B 1499 ACTCGTGGACTGGAGCTACCAAGTACCACCTCAATGGCAGAGACTCTCTGGTGAATCCGGGCCCCGGCCAT
 hu.45-B 1499 ACTCGTGGACTGGAGCTACCAAGTACCACCTCAATGGCAGAGACTCTCTGGTGAATCCGGGCCCCGGCCGT
 hu.57-B 1496 ACTCGTGGACTGGAGCTACCAAGTACCACCTCAATGGCAGAGACTCTCTGGTGAATCCGGGCCCCGGCCAT
 hu.35-B 1499 ACTCGTGGACTGGAGCTACCAAGTACCACCTCAATGGCAGAGACTCTCTGGTGAATCCGGGCCCCGGCCAT
 hu.58-B 1499 ACTCGTGGATGGAGCTACCAAGTACCACCTCAATGGCAGAGACTCTCTGGTGAATCCGGGCCCCGGCAAT
 hu.28-B 1499 ACTCGTGGACTGGAGCTACCAAGTACCACCTCAATGGCAGAGACTCTCTGGTGAATCCGGGCCCCGGCCAT
 hu.51-B 1499 ACTCGTGGACTGGAGCTACCAAGTACCACCTCAATGGCAGAGACTCTCTGGTGAATCCGGGCCCCGGCCAT
 hu.19-B 1499 ACTCGTGGACTGGAGCTACCAAGTACCACCTCAATGGAAGAGACTCTCTGGTGAATCCGGGCCCCAGCTAT
 hu.49-B 1499 ACTCGTGGACTGGAGCTACCAAGTACCACCTCAATGGCAGAGACTCTCTGGTGAATCCGGGCCCCGGCCAT
 hu.52-B 1499 ACTCGTGGACTGGAGCTACCAAGTACCACCTCAATGGCAGAGACTCTCTGGTGAATCCGGGCCCCGGCCAT
 hu.13-B 1499 ACTCGTGGACTGGAGCTACCAAGTACCACCTCAATGGCAGAGACTCTCTGGTGAATCCGGGCCCCGGCCAT
 AAV2-B 1499 ACTCGTGGACTGGAGCTACCAAGTACCACCTCAATGGCAGAGACTCTCTGGTGAATCCGGGCCCCGGCCAT
 hu.20-B 1499 ACTCGTGGACTGGAGCTACCAAGTACCACCTCAATGGAAGAGACTCTCTGGTGAATCCGGGCCCCAGCTAT
 hu.24-B 1499 ACTCGTGGACTGGAGCTACCAAGTACCACCTCAATGGAAGAGACTCTCTGGTGAATCCGGGCCCCAGCTAT
 hu.64-B 1499 ACTCGTGGACTGGAGCTACCAAGTACCACCTTAATGGAAGAGACTCTCTGGTGAATCCGGGCCCCGGCCAT
 hu.27-B 1499 ACTCGTGGACTGGAGCTACCAAGTACCACCTCAATGGAAGAGACTCTCTGGTGAATCCGGGCCCCAGCTAT
 hu.21-B 1499 ACTCGTGGACTGGAGCTACCAAGTACCACCTCAATGGAAGAGACTCTCTGGTGAATCCGGGCCCCAGCTAT
 hu.22-B 1499 ACTCGTGGACTGGAGCTACCAAGTACCACCTCAATGGAAGAGACTCTCTGGTGAATCCGGGCCCCAGCTAT
 hu.23-B 1499 ACTCGTGGACTGGAGCTACCAAGTACCACCTCAATGGAAGAGACTCTCTGGTGAATCCGGGCCCCAGCTAT

hu. 7-C 1499 TTCCCTGGACTGCGGCTACAAAGTATCACCTAAATGGCCGGGACTCGTTGGTTAATCCAGGACCAGCTAT
 hu. 61-C 1499 TTCCCTGGACTGCGGCTACAAAGTATCATCTAAATGGCCGGGACTCGTTGGTTAATCCAGGACCAGCTAT
 rh. 56-C 1499 TTCCCTGGACTGCGGCTACAAAGTACCACTAAATGGCCGGGACTCGTTGGTTAATCCAGGACCAGCTAT
 hu. 9-C 1499 TTCCCTGGACTGCGGCTACAAAGTATCATCTAAATGGCCGGGACTCGTTGGTTAATCCAGGACCAGCTAT
 hu. 54-C 1496 TTCCCTGGACTGGAGCTACCAAGTACCACTCAATGGCGGAGACTCTTTGGTGAACCCGGGCCCGCCAT
 hu. 53-C 1496 TTCCCTGGACTGGAGCTACCAAGTACTACTCAATGGCAGAGACTCTTTGGTGAACCCGGGCCCGCCAT
 hu. 60-C 1499 TTCCCTGGACTGCAGCTACAAAGTATCATCTAAATGGCCGGGACTCGTTGGTTAATCCAGGACCAGCTAT
 hu. 55-C 1496 TTCCCTGGACTGGAGCTACCAAGTACCACTCAATGGCAGAGACTCTTTGGTGAACCCGGGCCCGCCAT
 hu. 2-C 1499 TTCCCTGGACTGCAGCTACAAAGTATCATCTAAATGGCCGGGACTCGTTGGTTAATCCAGGACCAGCTAT
 hu. 1-C 1499 TTCCCTGGACTGCAGCTACAAAGTATCATCTAAATGGCCGGGACTCGTTGGTTAATCCAGGACCAGCTAT
 hu. 18-C 1499 TTCCCTGGACTGCGGCTACAAAGTATCATCTAAATGGCCGGGACTCGTTGGTTAATCCAGGACCAGCTAT
 hu. 3-C 1502 TTCCCTGGACTGCAGCTACAAAGTATCATCTAAATGGCCGGGACTCGTTGGTTAATCCAGGACCAGCTAT
 hu. 25-C 1499 TTCCCTGGACTGCAGCTACAAAGTATCATCTAAATGGCCGGGACTCGTTGGTTAATCCAGGACCAGCTAT
 hu. 15-C 1499 TTCCCTGGACTGCGGCTACAAAGTATCATCTAAATGGCCGGGACTCGTTGGTTAATCCAGGACCAGCTAT
 hu. 16-C 1499 TTCCCTGGACTGCGGCTACAAAGTATCATCTAAATGGCCGGGACTCGTTGGTTAATCCAGGACCAGCTAT
 hu. 11-C 1499 TTCCCTGGACTGCGGCTACAAAGTATCGTCTAAATGGCCGGGACTCGTTGGTTAATCCAGGACCAGCTAT
 hu. 10-C 1499 TTCCCTGGACTGCGGCTACAAAGTATCATCTAAATGGCCGGGACTCGTTGGTTAATCCAGGACCAGCTAT
 hu. 4-C 1499 TTCCCTGGACTGCAGCTACAAAGTATCATCTAAATGGCCGGGACTCGTTGGTTAATCCAGGACCAGCTAT
 rh. 54-D 1508 TTGCTTGGACTGGTGCCACCAAAATACCATCTAAATGGAAGAAATTCATTGGTTAATCCCGGTGTCGCCAT
 rh. 48-D 1508 TTGCTTGGACTGGTGCCACCAAAATACCATCTAAATGGAAGAAATTCATTGGTTAATCCCGGTGTCGCCAT
 rh. 55-D 1508 TTGCTTGGACTGGTGCCACCAAAATACCATCTAAATGGAAGAAATTCATTGGTTAATCCCGGTGTCGCCAT
 rh. 62-D 1508 TTGCTTGGACTGGTGCCACCAAAATACCATCTAAATGGAAGAAATTCATTGGTTAATCCCGGTGTCGCCAT
 AAV7-D 1508 TTGCTTGGACTGGTGCCACCAAAATACCATCTAAATGGAAGAAATTCATTGGTTAATCCCGGTGTCGCCAT
 rh. 52-E 1508 TTGCCTGGACTGGTGCCACCAAGTATCATCTGAACGGCAGAGACTCTCTGGTGAATCCGGGCGTCGCCAT
 rh. 51-E 1508 TTGCCTGGACTGGTGCCACCAAGTATCATCTGAACGGCAGAGACTCTCTGGTGAATCCGGGCGTCGCCAT
 hu. 39-E 1508 TTGCCTGGACTGGTGCCACCAAGTATCATCTGAACGGCAGAGACTCTCTGGTGAATCCGGGCGTCGCCAT
 rh. 53-E 1508 TTGCCTGGACTGGTGCCACCAAGTATCATCTGAACGGCAGAGACTCTCTGGTGAATCCGGGCGTCGCCAT
 hu. 37-E 1508 TTGCTTGGACTGGTGCCACCAAAATACCATCTGAACGGGAAAGAGACTCTTTGGTAAATCCCGGTGTCGCCAT
 rh. 43-E 1505 TTGCCTGGACTGCTGGGACCAAAATACCATCTGAATGGAAGAAATTCATTGGTTAATCCCTGGCATCGCTAT
 rh. 50-E 1508 TTGCCTGGACTGGTGCCACCAAGTATCATCTGAACGGCAGAGACTCTCTGGTGAATCCGGGCGTCGCCAT

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rh. 49-E	1508	TTGCCCTGGACTGGTGCACCAAGTATCATCTGAACGGCAGAGACTCTCTGGTGAATCCGGGCGTCGCCAT	1620	1630	1640	1650	1660	1670	1680
rh. 61-E	1508	TTGCCCTGGACTGGTGCACCAAGTATCATCTGAACGGCAGAGACTCTCTGGTGAATCCGGGCGTCGCCAT						
hu. 41-E	1508	TTGCTTGGACTGGTGCACCAAAATATCACCTGAACGGAGAGACTCTTTGGTAAATCCCGGTGTCGCCAT							
rh. 64-E	1508	TTGCCCTGGACTGGTGCACCAAGTATCATCTGAACGGCAGAGACTCTCTGGTGAATCCGGGCGTCGCCAT							
hu. 42-E	1508	TTGCTTGGACTGGTGCACCAAAATATCACCTGAACGGAGAGACTCTTTGGTAAATCCCGGTGTCGCCAT							
rh. 57-E	1508	TTGCCCTGGACTGGTGCACCAAGTATCATCTGAACGGCAGAGACTCTCTGGTGAATCCGGGCGTCGCCAT							
hu. 40-E	1508	TTGCTTGGACTGGTGCACCAAAATATCACCTGAACGGAGAGACTCTTTGGTAAATCCCGGTGTCGCCAT							
AAV8-E	1508	TTGCCCTGGACTGGTGCACCAAAATACCATCTGAATGGAAGAAATTCATTGGCTAATCCTGGCATCGCTAT							
rh. 58-E	1508	TTGCCCTGGACTGGTGCACCAAGTATCATCTGAACGGCAGAGACTCTCTGGTGAATCCGGGCGTCGCCAT							
rh. 40-E	1508	TTGCTTGGACTGGTGCACCAAAATATCACCTGAACGGAGAGACTCTTTGGTAAATCCCGGTGTCGCCAT							
hu. 67-E	1508	TTGCTTGGACTGGTGCACCAAAATATCACCTGAACGGAGAGACTCTTTGGTAAATCCCGGTGTCGCCAT							
hu. 17-E	1508	TTGCTTGGACTGGTGCACCAAGTATCATCTGAATGGCAGAGACTCTCTGGTAAATCCCGGTGTCGCCAT							
hu. 6-E	1508	TTGCTTGGACCGGTGCACCAAGTATCATCTGAATGGCAGAGACTCTCTGGTAAATCCCGGTGTCGCCAT							
hu. 66-E	1508	TTGCTTGGACTGGTGCACCAAAATATCACCTGAACGGAGAGACTCTTTGGTAAATCCCGGTGTCGCCAT							
rh. 38-E	1508	TTGCTTGGACTGGTGCACCAAAATATCACCTGAACGGAGAGACTCTTTGGTAAATCCCGGTGTCGCCAT							
hu. 32-F	1502	TTGCTTGGCCTGGAGCTTCTTCTTGGGCTCTCAATGGACGTAATAGCTTGATGAATCCTGGACCTGCTAT							
AAV9/hu	1502	TTGCTTGGCCTGGAGCTTCTTCTTGGGCTCTCAATGGACGTAATAGCTTGATGAATCCTGGACCTGCTAT							
hu. 31-F	1502	TTGCTTGGCCTGGAGCTTCTTCTTGGGCTCTCAATGGACGTAATAGCTTGATGAATCCTGGACCTGCTAT							
AAV5	1530	CATGACCAACAACCTCCAGGGCAGCAACACCTATGCCCTGGAGAACACTATGATCTTCAACAGCCAGCCG							
AAV3-3	1572	GGCCAGTCACAAGGACGATGAAGAAAAATTTTCCCTATGCACGGCAATCTAATAATTTGGCAAAGAAGG							
AAV4-4	1569	GGCCACGGCTGGACCTCGGACAGCAAGTTTCAGC---AACAGCCAGCTCATCTTTGCGGGGCTTAAACAG							
AAV1-A	1572	GGCCTCACACAAAGACGACGAAGACAAGTTCTTTCCCATGAGCGGTGTCATGATTTTGGAAAAGAGAGC							
hu. 46-A	1572	GGCCTCACACAAAGACGACGAAGACAAGTTCTTTCCCATGAGCGGTGTCATGATTTTGGAAAAGAGAGC							
hu. 48-A	1572	GGCCTCACACAAAGACGACGAAGACAAGTTCTTTCCCATGAGCGGTGTCATGATTTTGGAAAAGAGAGC							
hu. 44-A	1572	GGCCTCACACAAAGACGACGAAGACAAGTTCTTTCCCATGAGCGGTGTCATGATTTTGGAAAAGAGAGC							
hu. 43-A	1575	GGCCTCACACAAAGACGACGAAGACAAGTTCTTTCCCATGAGCGGTGTCATGATTTTGGAAAAGAGAGC							
AAV6-A	1572	GGCCTCACACAAAGACGACGAAGACAAGTTCTTTCCCATGAGCGGTGTCATGATTTTGGAAAAGAGAGC							

FIG. 3BL

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hu. 34-B 1569 GGCAAGCCACAAGGACGATGAAGAAAAAGTTTTTCTCAGAGCGGGTTCATCTTTGGGAAGCAAGGC
 hu. 47-B 1569 GGCAAGCCACAAGGACAAATGAAGAAAAAGTTTTTCTCAGAGCGGGTTCATCTTTGGGAAGCAAGGC
 hu. 29-B 1569 GGCAAGCCACAAGACGATGAAGAAAAAGTTTTTCTCAGAGCGGGTTCATCTTTGGGAAGCAAGGC
 hu. 63-B 1569 GGCAAGCCACAAGGACGATGAAGAAAAAGTTTTTCTCAGAGCGGGTTCATCTTTGGAAAAACAAGAC
 hu. 56-B 1569 GGCAAGCCACAAGGACGATGAAGAAAAAGTTTTTCTCAAAGCGGGTTCATCTTTGGGAAGCAAGGC
 hu. 45-B 1569 GGCAAGCCACAAGGACGATGAAGAAAAAGTTTTTCTCAGAGCGGGTTCATCTTTGGGAAGCAAGGC
 hu. 57-B 1566 GGCAAGCCACAAGGACGATGAAGAAAAAGTTTTTCTCAAAGCGGGTTCATCTTTGGGAAGCAAGGC
 hu. 35-B 1569 GGCAAGCCACAAGGACGATGAAGAAAAAGTTTTTCTCAGAGCGGGTTCATCTTTGGGAAGCAAGGC
 hu. 58-B 1569 GGCAAGCCACAAGGACGATGAAGAAAAAGTTTTTCTCAGAGCGGGTTCATCTTTGGAAAAACAAGGA
 hu. 28-B 1569 GGCAAGCCACAAGGACGATGAAGAAAAAGTTTTTCTCAGAGCGGGTTCATCTTTGGGAAGCAAGGC
 hu. 51-B 1569 GGCAAGCCACAAGGACAAATGAAGAAAAAGTTTTTCTCAGAGCGGGTTCATCTTTGGGAAGCAAGGC
 hu. 19-B 1569 GGCAAGCCACAAGGACGATGAAGAAAAATATTTCTCAGAGCGGGTTCATCTTTGGAAAAACAAGAC
 hu. 49-B 1569 GGCAAGCCACAAGGACGATGAAGAAAAAGTTTTTCTCAAAGCGGGTTCATCTTTGGGAAGCAAGGC
 hu. 52-B 1569 GGCAAGCCACAAGGACAAATGAAGAAAAAGTTTTTCTCAGAGCGGGTTCATCTTTGGGAAGCAAGGC
 hu. 13-B 1569 GGCAAGCCACAAGGACGATGAAGAAAAAGTTTTTCTCAGAGCGGGTTCATCTTTGGGAAGCAAGGC
 AAV2-B 1569 GGCAAGCCACAAGGACGATGAAGAAAAAGTTTTTCTCAGAGCGGGTTCATCTTTGGGAAGCAAGGC
 hu. 20-B 1569 GGCAAGCCACAAGGACGATGAAGAAAAATATTTCTCAGAGCGGGTTCATCTTTGGAAAAACAAGAC
 hu. 24-B 1569 GGCAAGCCACAAGGACGATGAAGAAAAATATTTCTCAGAGCGGGTTCATCTTTGGAAAAACAAGAC
 hu. 64-B 1569 GGCAAGCCACAAGGACGATGAAGAAAAAGTTTTTCTCAGAGCGGGTTCATCTTTGGAAAAACAAGAC
 hu. 27-B 1569 GGCAAGCCACAAGGACGATGAAGAAAAATATTTCTCAGAGCGGGTTCATCTTTGGAAAAACAAGAC
 hu. 21-B 1569 GGCAAGCCACAAGGACGATGAAGAAAAATATTTCTCAGAGCGGGTTCATCTTTGGAAAAACAAGAC
 hu. 22-B 1569 GGCAAGCCACAAGGACGATGAAGAAAAATATTTCTCAGAGCGGGTTCATCTTTGGAAAAACAAGAC
 hu. 23-B 1569 GGCAAGCCACAAGGACGATGAAGAAAAATATTTCTCAGAGCGGGTTCATCTTTGGAAAAACAAGAC
 hu. 7-C 1569 GGCAAGCCACAAGGACGATGAAGAAAAAGTTTTTCCCCCATGCATGGAACCCCTGATATTTGGTAAACAAGGA
 hu. 61-C 1569 GGCAAGCCACAAGGATGACGAAGAAAAAGTTTTTCCCCCATGCATGGAACCCCTATATTTGGTAAACAAGGA
 rh. 56-C 1569 GGCAAGCCACAAGGACGATGAAGAAAAAGTTTTTCCCCCATGCATGGAACCCCTGATATTTGGTAAACAAGGA
 hu. 9-C 1569 GGCAAGCCACAAGGACGATGAAGAAAAAGTTTTTCCCCCATGCATGGAACCCCTGATATTTGGTAAACAAGGA
 hu. 54-C 1566 GGCAAGCCACAAGGACGATGAAGAAAAAGTTTTTCCCCCATGCATGGAACCCCTAAATATTTGGTAAAGAAAGGA
 hu. 53-C 1566 GGCAAGCCACAAGGACGATGAAGAAAAAGTTTTTCCCCCATGCATGGAACCCCTAAATATTTGGTAAAGAAAGGA
 hu. 60-C 1569 GGCAAGCCACAAGGATGACGAAGAAAAAGTTTTTCCCCCATGCATGGAACCCCTATATTTGGTAAACAAGGA

FIG. 3BM

hu. 55-C 1566 GGCCAGCCACAAGGACGATGAAGAAAAGTTTTCCTCCCATGCAATGGAACCCCTAATATTGTTAAAGAAAGGA
 hu. 2-C 1569 GGCCAGTCACAAGGATGACGAAGAAAAGTTTTCCTCCCATGCAATGGAACCCCTGATATTGTTAAACAAGGA
 hu. 1-C 1569 GGCCAGTCACAAGGATGACGAAGAAAAGTTTTCCTCCCATGCAATGGAACCCCTGATATTGTTAAACAAGGA
 hu. 18-C 1569 GGCCAGCCACAAGACGATGAAGAAAAGTTTTCCTCCCATGCAATGGAACCCCTGATATTGTTAAACAAGGA
 hu. 3-C 1572 GGCCAGTCACAAGGATGACGAAGAAAAGTTTTCCTCCCATGCAATGGAACCCCTGATATTGTTAAACAAGGA
 hu. 25-C 1569 GGCCAGTCACAAGGATGACGAAGAAAAGTTTTCCTCCCATGCAATGGAACCCCTGATATTGTTAAACAAGGA
 hu. 15-C 1569 GGCCAGCCACAAGACGATGAAGAAAAGTTTTCCTCCCATGCAATGGAACCCCTGATATTGTTAAACAAGGA
 hu. 16-C 1569 GGCCAGCCACAAGACGATGAAGAAAAGTTTTCCTCCCATGCAATGGAACCCCTGATATTGTTAAACAAGGA
 hu. 11-C 1569 GGCCAGCCACAAGACGATGAAGAAAAGTTTTCCTCCCATGCAATGGAACCCCTGATATTGTTAAACAAGGA
 hu. 10-C 1569 GGCCAGCCACAAGACGATGAAGAAAAGTTTTCCTCCCATGCAATGGAACCCCTGATATTGTTAAACAAGGA
 hu. 4-C 1569 GGCCAGTCACAAGGATGACGAAGAAAAGTTTTCCTCCCATGCAATGGAACCCCTGATATTGTTAAACAAGGA
 rh. 54-D 1578 GGCAACTCACAAGGACGACGAGGACCGCTTTTCCCATCCAGCGGAGTCCCTGATTTTGGAAAAAAGTGA
 rh. 48-D 1578 GGCAACCCACAAGGACGACGAGGACCGCTTCTCCCTTCGAGCGGAGTCCCTGATTTTGGAAAAAAGTGA
 rh. 55-D 1578 GGCAACCCACAAGGACGACGAGGACCGCTTCTCCCTTCGAGCGGAGTCCCTGATTTTGGAAAAAAGTGA
 rh. 62-D 1578 GGCAACCCACAAGGACGACGAGGACCGCTTCTCCCTTCGAGCGGAGTCCCTGATTTTGGAAAAAAGTGA
 AAV7-D 1578 GGCAACTCACAAGGACGACGAGGACCGCTTTTCCCATCCAGCGGAGTCCCTGATTTTGGAAAAAAGTGA
 rh. 52-E 1578 GGCAACCAACAAGGACGACGAGGACCGCTTCTCCCATCCAGCGGATCCCTCATGTTTGGCAAGCAGGGA
 rh. 51-E 1578 GGCAACCAACAAGGACGACGAGGACCGCTTCTCCCATCCAGCGGATCCCTCATGTTTGGCAAGCAGGGA
 hu. 39-E 1578 GGCAACCAACAAGGACGACGAGGACCGCTTCTCCCATCCAGCGGATCCCTCATGTTTGGCAAGCAGGGA
 rh. 53-E 1578 GGCAACCAACAAGGACGACGAGGACCGCTTCTCCCATCCAGCGGATCCCTCATGTTTGGCAAGCAGGGA
 hu. 37-E 1578 GGCAACCCACAAGGACGACGAGGACCGCTTCTCCCGTCGAGTGGAGTCCCTGATGTTTGGAAAAACAGGGT
 rh. 43-E 1575 GGCAACACACAAGACGACGAGGAGCGTTTTCCTCAGTAACGGGA--TCCTGTTTTCGCAACAACAAAT
 rh. 50-E 1578 GGCAACCAACAAGGACGACGAGGACCGCTTCTCCCATCCAGCGGATCCCTCATGTTTGGCAAGCAGGGA
 rh. 49-E 1578 GGCAACCAACAAGGACGACGAGGACCGCTTCTCCCATCCAGCGGATCCCTCATGTTTGGCAAGCAGGGA
 rh. 61-E 1578 GGCAACCAACAAGGACGACGAGGACCGCTTCTCCCATCCAGCGGATCCCTCATGTTTGGCAAGCAGGGA
 hu. 41-E 1578 GGCAACCCACAAGGACGACGAGGACCGCTTCTCCCGTCGAGTGGAGTCCCTGATGTTTGGAAAAACAGGGT
 rh. 64-E 1578 GGCAACCAACAAGGACGACGAGGACCGCTTCTCCCATCCAGCGGATCCCTCATGTTTGGCAAGCAGGGA
 hu. 42-E 1578 GGCAACCCACAAGGACGACGAGGACCGCTTCTCCCGTCGAGTGGAGTCCCTGATGTTTGGAAAAACAGGGT
 rh. 57-E 1578 GGCAACCAACAAGGACGACGAGGACCGCTTCTCCCATCCAGCGGATCCCTCATGTTTGGCAAGCAGGGA
 hu. 40-E 1578 GGCAACCCACAAGGACGACGAGGACCGCTTCTCCCGTCGAGTGGAGTCCCTGATGTTTGGAAAAACAGGGT

FIG. 3BN

AAV8-E	1578	GGCAACACACAAAGACGACGAGGAGCGTTTTCCTCCAGTAACGGGATCCTGATTTTGGCAAACAAAAT
rh. 58-E	1578	GGCAACCAACAAGGACGACGAGGACCGCTTCTCCCATCCAGCGGCATCCTCATGTTTGGCAAGCAGGGA
rh. 40-E	1578	GGCAACGCATAAGGACGACGAGGAACGTTTCTTCCATCGAGCGGAGTCTGATGTTTGGAAAACACGGGT
hu. 67-E	1578	GGCAACCCACAAGGACGACGAGGAACGCTTCTTCCCGTCGAGTGGAGTCCCTGATGTTTGGAAAACACGGGT
hu. 17-E	1578	GGCAACGCACAAGGACGACGAGGAGCGATTTCCTCCATCCAGCGGAGTCTTGATGTTTGGGAAACACAGGA
hu. 6-E	1578	GGCAACGCACAAGGACGACGAGGAGCGATTTCCTCCATCCAGCGGAGTCTTGATGTTTGGGAAACACAGGA
hu. 66-E	1578	GGCAACCCACAAGGACGACGAGGAACGCTTCTCCCGTCGAGTGGAGTCCCTGATGTTTGGAAAACACAGGT
rh. 38-E	1578	GGCAACCCACAAGGACGACGAGGAACGCTTCTCCCGTCGAGTGGAGTCCCTGATGTTTGGAAAACACGGGT
hu. 32-F	1572	GGCAGCCACAAAGAAGGAGAGGACCGTTTCTTCCCTTGTCTGGATCCTTAATTTTGGCAAACAAAGGA
AAV9/hu	1572	GGCAGCCACAAAGAAGGAGAGGACCGTTTCTTCCCTTGTCTGGATCCTTAATTTTGGCAAACAAAGGA
hu. 31-F	1572	GGCAGCCACAAAGAAGGAGAGGACCGTTTCTTCCCTTGTCTGGATCCTTAATTTTGGCAAACAAAGGA

		1690	1700	1710	1720	1730	1740	1750
AAV5	1600	GCGAACCCGGCACCA	CGGCCACGTACTC	GAGGCGAACA	TGCTCATCACCAGCGAGAGCGGACGCAGC				
AAV3-3	1642	ACA-----ACGGCAAGTA	ACGCAGAATTAGAT--	AATGTAATGATT	ACGGATGAAGAAGAGAGATTCGTA				
AAV4-4	1636	AAC-----GGCAACAC	CGGCCACCGTACCCGGG--	ACTCTGATCTT	CACCTCTGAGGAGGAGCTGGCAG				
AAV1-A	1642	GCC-----GGAGCTTCAA	ACACTGCATTGGAC--	AATGTCATGATT	ACAGACGGAAGAGGAAAATTAAAG				
hu. 46-A	1642	GCC-----GGAGCTTCAA	ACACTGCATTGGAC--	AATGTCATGATT	ACAGACGGAAGAGGAAAATTAAAG				
hu. 48-A	1642	GCC-----GGAGCTTCAAG	CACTGCATTGGAC--	AATGTCATGATT	ACAGACGGAAGAGGAAAATTAAAG				
hu. 44-A	1642	GCC-----GGAGCTTCAA	ACACTGCATTGGAC--	AATGTCATGATT	ACAGACGGAAGAGGAAAATTAAAG				
hu. 43-A	1645	GCC-----GGAGCTTCAA	ACACTGCATTGGAC--	AATGTCATGATT	ACAGACGGAAGAGGAAAATTAAAG				
AAV6-A	1642	GCC-----GGAGCTTCAA	ACACTGCATTGGAC--	AATGTCATGATT	ACAGACGGAAGAGGAAAATTCAAG				
hu. 34-B	1639	TCA-----GAGAAAA	CAAAATGTGGACATTGAA--	AAGGTCATGATT	ACAGACGGAAGAGGAAAATCAGGA				
hu. 47-B	1639	TCA-----GAGAAAA	CAAAATGTGGACATTGAA--	AAGGTCATGATT	ACAGACGGAAGAGGAAAATCAGGA				
hu. 29-B	1639	CCA-----GAGAAAA	CAAAATGTGGATATTGAA--	AAGGTCATGATT	ACAGACGGAAGAGGAAAATCAGGA				
hu. 63-B	1639	TCG-----GGAAAA	AACTAATGTGGACATTGAA--	AAGGTCATGATT	ACAGACGGAAGAGGAAAATCAGGA				
hu. 56-B	1639	TCA-----GAGAAAA	CAAAATGTGGACATTGAA--	AAGGTCATGATT	ACAGACGGAAGAGGAAAATCAGGA				
hu. 45-B	1639	TCA-----GAGAAAA	CAAAATGTGGACATTGAA--	AAGGTCATGATT	ACAGACGGAAGAGGAAAATCAGGA				
hu. 57-B	1636	TCA-----GAGAAAA	CAAAATGTGGACATTGAA--	AAGGTCATGATT	ACAGACGGAAGAGGAAAATCAGGA				

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hu. 35-B TCA-----GAGAAAAAATAATGTGGACATTGAA---AAGGTCATGATTACAGACGAAGAGGAAATCAGGA
 hu. 58-B TCA-----GAGAAAAAATAATGTGGACATTGAA---AAGGTCATGATTACAGACGAAGAGGAAATCAGGA
 hu. 28-B TCA-----GAGAAAAAATAATGTGGATATTGAA---AAGGTCATGATTACAGACGAAGAGGAAATCAGGA
 hu. 51-B TCA-----GAGAAAAAATAATGTGGACATTGAA---AAGGTCATGATTACAGACGAAGAGGAAATCAGGA
 hu. 19-B TCG-----GGAAAAAATAATGTGGACATTGAA---AAGGTCATGATTACAGACGAAGAGGAAATCAGGA
 hu. 49-B TCA-----GAGAAAAAATAATGTGGACATTGAA---AAGGTCATGATTACAGACGAAGAGGAAATCAGGA
 hu. 52-B TCA-----GAGAAAAAATAATGTGGACATTGAA---AAGGTCATGATTACAGACGAAGAGGAAATCAGGA
 hu. 13-B TCA-----GAGAAAAAATAATGTGGACATTGAA---AAGGTCATGATTACAGACGAAGAGGAAATCAGGA
 AAV2-B TCA-----GAGAAAAAATAATGTGGACATTGAA---AAGGTCATGATTACAGACGAAGAGGAAATCAGGA
 hu. 20-B TCG-----GGAAAAAATAATGTGGACATTGAA---AAGGTCATGATTACAGACGAAGAGGAAATCAGGA
 hu. 24-B TCG-----GGAAAAAATAATGTGGACATTGAA---AAGGTCATGATTACAGACGAAGAGGAAATCAGGA
 hu. 64-B TCG-----GGAAAAAATAATGTGGACATTGAA---AAGGTCATGATTACAGACGAAGAGGAAATCAGGA
 hu. 27-B TCG-----GGAAAAAATAATGTGGACATTGAA---AAGGTCATGATTACAGACGAAGAGGAAATCAGGA
 hu. 21-B TCG-----GGAAAAAATAATGTGGACATTGAA---AAGGTCATGATTACAGACGAAGAGGAAATCAGGA
 hu. 22-B TCG-----GGAAAAAATAATGTGGACATTGAA---AAGGTCATGATTACAGACGAAGAGGAAATCAGGA
 hu. 23-B TCG-----GGAAAAAATAATGTGGACATTGAA---AAGGTCATGATTACAGACGAAGAGGAAATCAGGA
 hu. 7-C ACA-----AATGCTAACGACGCGGATTGGAC---AATGTCTATGATTACAGATGAAGAAGAAATCCGCA
 hu. 61-C ACA-----AATGCCAACGACGCGGATTGGAA---AATGTCTATGATTACAGATGAAGAAGAAATCAGGA
 rh. 56-C ACA-----AATGCTAACGACGCGGATTGGAC---AATGTCTATGATTACAGATGAAGAAGAAATCCGCA
 hu. 9-C ACA-----AATGCTAACGACGCGGATTGGAG---CATGTTATGATTACAGATGAAGAAGAAATCAGGA
 hu. 54-C ACA-----AATGCTACCAACGCGGAATTGGAA---AATGTCTATGATTACAGATGAAGAAGAAATCAGGA
 hu. 53-C ACA-----AATGCTACCAACGCGGAATTGGAA---AATGTCTATGATTACAGATGAAGAAGAAATCAGGA
 hu. 60-C ACA-----AATGCCAACGACGCGGATTGGAA---AATGTCTATGATTACAGATGAAGAAGAAATCAGGA
 hu. 55-C ACA-----AATGCTACCAACGCGGAATTGGAA---AATGTCTATGATTACAGATGAAGAAGAAATCAGGA
 hu. 2-C ACA-----AATGCCAACGACGCGGATTGGAA---AATGTCTATGATTACAGATGAAGAAGAAATCAGGG
 hu. 1-C ACA-----AATGCCAACGACGCGGATTGGAA---AATGTCTATGATTACAGATGAAGAAGAAATCAGGG
 hu. 18-C ACA-----AATGCTAACGACGCGGATTGGAC---AATGTCTATGATTACAGATGAAGAAGAAATCCGCA
 hu. 3-C ACA-----AATGCCAACGACGCGGATTGGAA---AATGTCTATGATTACAGATGAAGAAGAAATCAGGC
 hu. 25-C ACA-----AATGCCAACGACGCGGATTGGAA---AATGTCTATGATTACAGATGAAGAAGAAATCAGGA
 hu. 15-C ACA-----AATGCTAACGACGCGGATTGGAC---AATGTCTATGATTACAGATGAAGAAGAAATCCGCA

FIG. 3BP

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hu.16-C 1639 ACA-----AATGCTAACGACGCGGATTTGGAC---AATGTCATGATTACAGATTACAGATGAAGAAGAAATCCGCA
 hu.11-C 1639 ACA-----AATGCTAACGACGCGGATTTGGAG---CATGTTATGATTACAGATTACAGATGAAGAAGAAATCAGGA
 hu.10-C 1639 ACA-----AATGCTAACGACGCGGATTTGGAG---CATGTTATGATTACAGATTACAGATGAAGAAGAAATCAGGA
 hu.4-C 1639 ACA-----AATGCCAACGACGCGGATTTGGAA---AATGTCATGATTACAGATTACAGATGAAGAAGAAATCAGGG
 rh.54-D 1648 GCA-----ACCAAC---AAGACTACACTTGGAA---AACGTGTTAATGACAAATGAAGAAGAAATTCGTC
 rh.48-D 1648 GCA-----GCTAAT---AAGACTACACTGGAA---AATGTGTTAATGACAAATGAAGAGGAAATTCGTC
 rh.55-D 1648 GCA-----GCTAAT---AAGACTACACTGGAA---AATGTGTTAATGACAAATGAAGAGGAAATTCGTC
 rh.62-D 1648 GCA-----GCTAAT---AAGACTACACTGGAA---AATGTGTTAATGACAAATGAAGAGGAAATTCGTC
 AAV7-D 1648 GCA-----ACTAAC---AAAACACTATTGGAA---AATGTGTTAATGACAAATGAAGAAGAAATTCGTC
 rh.52-E 1648 GCT-----GGAAAAGACAACGTGGACTATAGC---AACGTGATGCTAACCCAGCGAGGAAGAAATCAAGA
 rh.51-E 1648 GCT-----GGAAAAGACAACGTGGACTATAGC---AACGTGATGCTAACCCAGCGAGGAAGAAATCAAGA
 hu.39-E 1648 GCT-----GGAAAAGACAACGTGGACTATAGC---AACGTGATGCTAACCCAGCGAGGAAGAAATCAAGA
 rh.53-E 1648 GCT-----GGAAAAGACAACGTGGACTATAGC---AACGTGATGCTAACCCAGCGAGGAAGAAATCAAGA
 hu.37-E 1648 GCT-----GGAAAGAGACAATGTGGACTACAGC---AGCGTTATGCTAACCCAGCGAGGAAGAAATTAATA
 rh.43-E 1642 GCT-----GCCAGAGACAATGCGGATTACAGC---GATGTCATGCTCACCAGCGAGGAAGAAATCAAAA
 rh.50-E 1648 GCT-----GGAAAAGACAACGTGGACTATAGC---AACGTGATGCTAACCCAGCGAGGAAGAAATCAAGA
 rh.49-E 1648 GCT-----GGAAAAGACAACATGGGCTATAGC---AACGTGATGCTAACCCAGCGAGGAAGAAATCAAGA
 rh.61-E 1648 GCT-----GGAAAAGACAACGTGGACTATAGC---AACGTGATGCTAACCCAGCGAGGAAGAAATCAAGA
 hu.41-E 1648 GCT-----GGAAAGAGACAATGTGGACTACAGC---AGCGTTATGCTAACCCAGCGAGGAAGAAATTAATA
 rh.64-E 1648 GCT-----GGAAAAGACAACGTGGACTATAGC---AACGTGATGCTAACCCAGCGAGGAAGAAATCAAGA
 hu.42-E 1648 GCT-----GGAAAGAGACAATGTGGACTACAGC---AGCGTTATGCTAACCCAGCGAGGAAGAAATTAATA
 rh.57-E 1648 GCT-----GGAAAAGACAACGTGGACTATAGC---AACGTGATGCTAACCCAGCGAGGAAGAAATCAAGA
 hu.40-E 1648 GCT-----GGAAAGAGACAATGTGGACTACAGC---AGCGTTATGCTAACCCAGCGAGGAAGAAATTAATA
 AAV8-E 1648 GCT-----GCCAGAGACAATGCGGATTACAGC---GATGTCATGCTCACCAGCGAGGAAGAAATCAAAA
 rh.58-E 1648 GCT-----GGAAAAGACAACGTGGACTATAGC---AACGTGATGCTAACCCAGCGAGGAAGAAATCAAGA
 rh.40-E 1648 GCT-----GGAAAGAGACAATGTGGACTATAGC---AGCGTTATGCTAACCCAGCGAGGAAGAAATTAATA
 hu.67-E 1648 GCT-----GGAAAGAGACAATGTGGACTACAGC---AGCGTTATGCTAACCCAGCGGAAGAAATTAATA
 hu.17-E 1648 GCT-----GGAAAAGACAACGTGGACTATAGC---AGCGTTATGCTAACCCAGTGAGGAAGAAATCAAAA
 hu.6-E 1648 GCT-----GGAAAAGACAACGTGGACTATAGC---AGCGTTATGCTAACCCAGTGAGGAAGAAATCAAAA
 hu.66-E 1648 GCT-----GGAAAGAGACAATGTGGACTACAGC---AGCGTTATGCTAACCCAGCGGAAGAAATTAATA

FIG. 3BQ

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rh. 38-E	1648	GCT-----GGAAGAGACAAATGTGGACTACAGC---AGCGTTATGTCTAACCACGGAAGAAGAAATTAAAA	1760	1770	1780	1790	1800	1810	1820
hu. 32-F	1642	ACT-----GGAAGAGACAAACGTGGATGCGGAC---AAAGTCATGATAACCAACGAAGAAGAAATTAAAA							
AAV9/hu	1642	ACT-----GGAAGAGACAAACGTGGATGCGGAC---AAAGTCATGATAACCAACGAAGAAGAAATTAAAA							
hu. 31-F	1642	ACT-----GGAAGAGACAAACGTGGATGCGGAC---AAAGTCATGATAACCAACGAAGAAGAAATTAAAA							
								
AAV5	1670	CGGTGAACCGCGTGGCGTACAAACGTGCGCGGGCAGATGGCCACCAACCAACAGAGCTCCACCACCTGCCCC							
AAV3-3	1703	CCACCAATCCTGTGGCAACAGAGCAGTATGGAACCTGTGGCAATAAATTCGAGAGCTCAAAATACAGCTCC							
AAV4-4	1697	CCACCAACGCCACCGATACGGACATGTGGGGCAACCTACCTGGCGGTGACCAAGAGCAACAGCAACCTGCC							
AAV1-A	1703	CCACTAACCCCTGTGGCCACCGAAAGATTTGGGACCGTGGCAGTCAATTTCCAGAGCAGCAGCAGACCC							
hu. 46-A	1703	CCACTAACCCCTGTGGCCACCGAAAGATTTGGGACCGTGGCAGTCAATTTCCAGAGCAGCAGCAGACCC							
hu. 48-A	1703	CCACTAACCCCTGTGGCCACCGAAAGATTTGGGACCGTGGCAGTCAATTTCCAGAGCAGCAGCAGACCC							
hu. 44-A	1703	CCACTAACCCCTGTGGCCACCGAAAGATTTGGGACCGTGGCAGTCAATTTCCAGAGCAGCAGCAGACCC							
hu. 43-A	1706	CCACTAACCCCTGTGGCCACCGAAAGATTTGGGACCGTGGCAGTCAATTTCCAGAGCAGCAGCAGACCC							
AAV6-A	1703	CCACTAACCCCGTGGCCACCGAAAGATTTGGGACCTGTGGCAGTCAATCTCCAGAGCAGCAGCAGACCC							
hu. 34-B	1700	CAACCAATCCCGTGGCTACGGAGCAGTATGGTTCTGTATCTACCAACCTCCAGAGAGGCAACAGACAAGC							
hu. 47-B	1700	CAACCAATCCCGTGGCTACGGAGCAGTATGGTTCTGTATCTACCAACCTCCAGAGAGGCAACAGACAAGC							
hu. 29-B	1700	CCACCAATCCCGTGGCTACGGAGCAGTATGGTTCTGTATCTACCAACCTCCAGAGAGGCAACAGACAAGC							
hu. 63-B	1700	CCACCAATCCCGTGGCTACGGAGCAGTATGGTTCTGTATCTACCAACCTCCAGAGAGGCAACAGACAAGC							
hu. 56-B	1700	CCACCAATCCCGTGGCTACGGAGCAGTATGGTTCTGTATCTACCAACCTCCAGAGAGGCAACAGACAAGC							
hu. 45-B	1700	CAACCAATCCCGTGGCTACGGAGCAGTATGGTTCTGTATCTACCAACCTCCAGAGAGGCAACAGACAAGC							
hu. 57-B	1697	CCACCAATCCCGTGGCTACGGAGCAGTATGGTTCTGTATCTACCAACCTCCAGAGAGGCAACAGACAAGC							
hu. 35-B	1700	CAACCAATCCCGTGGCTACGGAGCAGTATGGTTCTGTATCTACCAACCTCCAGAGAGGCAACAGACAAGC							
hu. 58-B	1700	CCACCAATCCCGTGGCTACGGAGCAGTATGGTTCTGTATCTACCAACCTCCAGAGAGGCAACAGACAAGC							
hu. 28-B	1700	CCACCAATCCCGTGGCTACGGAGCAGTATGGTTCTGTATCTACCAACCTCCAGAGAGGCAACAGACAAGC							
hu. 51-B	1700	CAACCAATCCCGTGGCTACGGAGCAGTATGGTTCTGTATCTACCAACCTCCAGAGAGGCAACAGACAAGC							
hu. 19-B	1700	CCACCAATCCCGTGGCTACGGAGCAGTATGGTTCTGTATCTACCAACCTCCAGAGAGGCAACAGACAAGC							
hu. 49-B	1700	CCACCAATCCCGTGGCTACGGAGCAGTATGGTTCTGTATCTACCAACCTCCAGAGAGGCAACAGACAAGC							
hu. 52-B	1700	CAACCAATCCCGTGGCTACGGAGCAGTATGGTTCTGTATCTACCAACCTCCAGAGAGGCAACAGACAAGC							

FIG. 3BB

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hu.13-B 1700 CCACCAATCCCGTGGCTACGGAGCAGTATGGTTCTGTATCTACCAACCTGCAGGGGGCAACACACAAGC
 AAV2-B 1700 CAACCAATCCCGTGGCTACGGAGCAGTATGGTTCTGTATCTACCAACCTCCAGAGAGGCAACAGACAAGC
 hu.20-B 1700 CCACCAATCCCGTGGCTACGGAGCAGTATGGTTCTGTATCTACCAACCTCCAGAGCGGCAACACACAAGC
 hu.24-B 1700 CCACCAATCCCGTGGCTACGGAGCAGTATGGTTCTGTATCTACCAACCTCCAGAGCGGCAACACACAAGC
 hu.64-B 1700 CCACCAATCCCGTGGCTACGGAGCAGTATGGTTCTGTATCTACCAACCTCCAGAGCGGCAACACACAAGC
 hu.27-B 1700 CCACCAATCCCGGGCTACGGAGCAGTATGGTTCTGTATCTACCAACCTCCAGAGCGGCAACACACAAGC
 hu.21-B 1700 CCACCAATCCCGTGGCTACGGAGCAGTATGGTTCTGTATCTACCAACCTCCAGAGCGGCAACACACAAGC
 hu.22-B 1700 CCACCAATCCCGTGGCTACGGAGCAGTATGGTTCTGTATCTACCAACCTCCAGAGCGGCAACACACAAGC
 hu.23-B 1700 CCACCAATCCCGTGGCTACGGAGCAGTATGGTTCTGTATCTACCTACCTCCAGAGCGGCAACACACAAGC
 hu.7-C 1700 CCACCAATCCCGTGGCTACGGAGCAGTACGGATATGTGTCAAAATAATTGCAAAACTCAAATACTGGTCC
 hu.61-C 1700 CCACCAATCCCGTGGCTACGGAGCAGTACGGAACTGTATCAAAATAATTGCAAAACTCAAACACTGGTCC
 rh.56-C 1700 CCACCAATCCCGTGGCTACGGAGCAGTACGGATATGTGTCAAAATAATTGCAAAACTCAAATACTGGTCC
 hu.9-C 1700 CCACCAATCCCTGTGGCTACAGAGCAGTACGGAAACGTGTCAAAATAATTGCAAAACTCAAATACTGGTCC
 hu.54-C 1697 CCACCAATCCCGTGGCTACAGAGCAGTACGGATATGTGTCAAAATAATTGCAAAACTCAAATACTGGTCC
 hu.53-C 1697 CCACCAATCCCGTGGCTACAGAGCAGTACGGATATGTGTCAAAATAATTGCAAAACTCAAATACTGGTCC
 hu.60-C 1700 CCACCAATCCCGTGGCTACGGAGCAGTACGGAACTGTATCAAAATAATTGCAAAACTCAAACACTGGTCC
 hu.55-C 1697 CCACCAATCCCGTGGCTACAGAGCAGTACGGATATGTGTCAAAATAATTGCAAAACTCAAATACTGGTCC
 hu.2-C 1700 CCACCAATCCCGTGGCTACGGAGCAGTACGGACTGTGTCAAAATAATTGCAAAACTCAAACACTGGTCC
 hu.1-C 1700 CCACCAATCCCGTGGCTACGGAGCAGTACGGACTGTGTCAAAATAATTGCAAAACTCAAACACTGGTCC
 hu.18-C 1700 CCACCAATCCCGTGGCTACGGAGCAGTACGGATATGTGTCAAAATAATTGCAAAACTCAAATACTGGTCC
 hu.3-C 1703 CCACCAATCCCGTGGCTACGGAGCAGTACGGACTGTGTCAAAATAATTGCAAAACTCAAACACTGGTCC
 hu.25-C 1700 CCACCAATCCCGTGGCTACGGAGCAGTACGGACTGTGTCAAAATAATTGCAAAACTCAAACACTGGTCC
 hu.15-C 1700 CCACCAATCCCGTGGCTACGGAGCAGTACGGATATGTGTCAAAATAATTGCAAAACTCAAATACTGGTCC
 hu.16-C 1700 CCACCAATCCCGTGGCTACGGAGCAGTACGGATATGTGTCAAAATAATTGCAAAACTCAAATACTGGTCC
 hu.11-C 1700 CCACCAATCCCTGTGGCTACAGAGCAGTACGGAAACGTGTCAAAATAATTGCAAAACTCAAATACTGGTCC
 hu.10-C 1700 CCACCAATCCCTGTGGCTACAGAGCAGTACGGAAACGTGTCAAAATAATTGCAAAACTCAAATACTGGTCC
 hu.4-C 1700 CCACCAATCCCGTGGCTACGGAGCAGTACGGACTGTGTCAAAATAATTGCAAAACTCAAACACTGGTCC
 rh.54-D 1706 CTACTAATCCCTGTGGCCACAGAAGAAATACGGGATAGTCAGCAGCAATTTACAAGCGGCAATACTGCAGC
 rh.48-D 1706 CTACCAACCCGGTAGCCACCCAGGAATACGGGACTGTTAGCAGCAACCTGCAGGCGGCTAACACTGCAGC
 rh.55-D 1706 CTACCAACCCGGTAGCCACCCAGGAATACGGGACTGTTAGCAGCAACCTGCAGGCGGCTAACACTGCAGC

FIG. 3BS

rh. 62-D	1706	CTACCAACCCGGTAGCCACCGAGGAATACGGGACTGTTAGCAGCAACCTGCAGGGGGCTAACACTGCAGC	1830	1840	1850	1860	1870	1880	1890
AAV7-D	1706	CTACTAATCCTGTAGCCACGGAGAAATACGGGATAGTCAGCAGCAACTTACAAGGGGCTAATACTGCAGC							
rh. 52-E	1709	CCACCAACCCCGTGGCCACAGAACAGTATGGCGTGGTGGCTGATAACCTACAGCAGCAAAACACCCGCTCC							
rh. 51-E	1709	CCACCAACCCCGTGGCCACAGAACAGTATGGCGTGGTGGCTGATAACCTACAGCAGCAAAACACCCGCTCC							
hu. 39-E	1709	CCACCAACCCCGTGGCCACAGAACAGTATGGCGTGGTGGCTGATAACCTACAGCAGCAAAACACCCGCTCC							
rh. 53-E	1709	CCACCAACCCCGTGGCCACAGAACAGTATGGCGTGGTGGCTGATAACCTACAGCAGCAAAACACCCGCTCC							
hu. 37-E	1709	CCACTAACCCCGTAGCCACAGAACAAATACGGTGTGGTGGCTGACAACTTGACGAAACCAATACAGGGCC							
rh. 43-E	1703	CCACTAACCCCTGTGGCTACAGAGGAATACGGTATCGTGGCAGATAACTTGACGAGCAAAACACCGCTCC							
rh. 50-E	1709	CCACCAACCCCGTGGCCACAGAACAGTATGGCGTGGTGGCTGATAACCTACAGCAGCAAAACACCGCTCC							
rh. 49-E	1709	CCACCAACCCCGTGGCCACAGAACAGTATGGCGTGGTGGCTGATAACCTACAGCAGCAAAACACCGCTCC							
rh. 61-E	1709	CCACCAACCCCGTGGCCACAGAACAGTATGGCGTGGTGGCTGATAACCTACAGCAGCAAAACACCGCTCC							
hu. 41-E	1709	CCACTAACCCCTGTAGCCACAGAACAAATACGGTGTGGTGGCTGACAACTTGACGAAACCAATACAGGGCC							
rh. 64-E	1709	CCACCAACCCCGTGGCCACAGAACAGTATGGCGTGGTGGCTGATAACCTACAGCAGCAAAACACCGCTCC							
hu. 42-E	1709	CCACTAACCCCTGTAGCCACAGAACAAATACGGTGTGGTGGCTGACAACTTGACGAAACCAATACAGGGCC							
rh. 57-E	1709	CCACCAACCCCGTGGCCACAGAACAGTATGGCGTGGTGGCTGATAACCTACAGCAGCAAAACACCGCTCC							
hu. 40-E	1709	CCACTAACCCCTGTAGCCACAGAACAAATACGGTGTGGTGGCTGACAACTTGACGAAACCAATACAGGGCC							
AAV8-E	1709	CCACTAACCCCTGTGGCTACAGAGGAATACGGTATCGTGGCAGATAACTTGACGAGCAAAACACCGCTCC							
rh. 58-E	1709	CCACCAACCCCGTGGCCACAGAACAGTATGGCGTGGTGGCTGATAACCTACAGCAGCAAAACACCGCTCC							
rh. 40-E	1709	CCACTAACCCCTGTAGCCACAGAACAAATACGGTGTGGTGGCTGACAACTTGACGAAACCAATACAGGGCC							
hu. 67-E	1709	CCACTAACCCCTGTAGCCACAGAACAAATACGGTGTGGTGGCTGACAACTTGACGAAACCAATACAGGGCC							
hu. 17-E	1709	CCACCAACCCAGTGGCCACAGAACAGTACGGCGTGGTGGCCGATAACCTGCAACAGCAAAACGCCGCTCC							
hu. 6-E	1709	CCACCAACCCAGTGGCCACAGAACAGTACGGCGTGGTGGCCGATAACCTGCAACAGCAAAACGCCGCTCC							
hu. 66-E	1709	CCACTAACCCCTGTAGCCACAGAACAAATACGGTGTGGTGGCTGACAACTTGACGAAACCAATACAGGGCC							
rh. 38-E	1709	CCACTAACCCCTGTAGCCACAGAACAAATACGGTGTGGTGGCTGACAACTTGACGAAACCAATACAGGGCC							
hu. 32-F	1703	CTACTAACCCCGTAGCAACGGAGTCCTATGGACAAAGTGGCCACAAACCAACAGAGTCCCCAAGCACAGGC							
AAV9/hu	1703	CTACTAACCCCGTAGCAACGGAGTCCTATGGACAAAGTGGCCACAAACCAACAGAGTCCCCAAGCACAGGC							
hu. 31-F	1703	CTACTAACCCCGTAGCAACGGAGTCCTATGGACAAAGTGGCCACAAACCAACAGAGTCCCCAAGCACAGGC							

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FIG. 3BT

AAV5 1740 CGCGACCGGCACGTACAACCTCCAGGAAATCGTGCCCGGCAGCGTGTGGATGGAGAGGACGTGTACCTC
 AAV3-3- 1773 CACGACTGGAACTGTCAATCATCAGGGGCCCTTACCTGGCATGGTGTGGCAAGATCGTGACGTGTACCTT
 AAV4-4- 1767 GACCGTGGACAGACTGACAGCCCTGGAGCCGTGCCTGGAATGGTCTGGCAAAACAGAGACATTTACTAC
 AAV1-A- 1773 TCGGACCGGAGATGTGCATGCTATGGAGCATTAACCTGGCATGGTGTGGCAAGATAGAGACGTGTACCTG
 hu.46-A 1773 TCGGACCGGAGATGTGCATGCTATGGAGCATTAACCTGGCATGGTGTGGCAAGATAGAGACGTGTACCTG
 hu.48-A 1773 TCGGACCGGAGATGTGCATGCTATGGAGCATTAACCTGGCATGGTGTGGCAAGATAGAGACGTGTACCTG
 hu.44-A 1773 TCGGACCGGAGATGTGCATGCTATGGAGCATTAACCTGGCATGGTGTGGCAAGATAGAGACGTGTACCTG
 hu.43-A 1776 TCGGACCGGAGATGTGCATGCTATGGAGCATTAACCTGGCATGGTGTGGCAAGATAGAGACGTGTACCTG
 AAV6-A 1773 TCGGACCGGAGATGTGCATGTTATGGAGCCCTTACCTGGAATGGTGTGGCAAGACAGAGACGTATACCTG
 hu.34-B 1770 AGTACCGCAGATGTCAACACACACAAGGCGTTCTTCCAGGCATGGTCTGGCAGGACAGAGATGTGTACCTT
 hu.47-B 1770 AGTACCGCAGATGTCAACACACACAAGGCGTTCTTCCAGGCATGGTCTGGCAGGACAGAGATGTGTACCTT
 hu.29-B 1770 AGTACCGCAGATGTCAACACACACAAGGCGTTCTTCCAGGCATGGTCTGGCAGGACAGAGACGTGTACCTG
 hu.63-B 1770 AGTACCTCAGATGTCAACACACACAAGGCGTTCTTCCAGGCATGGTCTGGCAGGACAGAGACGTGTACCTG
 hu.56-B 1770 AGTACCTCAGATGTCAACACACACAAGGCGTTCTTCCAGGCATGGTCTGGCAGGACAGAGACGTGTACCTG
 hu.45-B 1770 AGTACCGCAGATGTCAACACACACAAGGCGTTCTTCCAGGCATGGTCTGGCAGGACAGAGATGTGTACCTT
 hu.57-B 1767 AGTACCTCAGATGTCAACACACACAAGGCGTTCTTCCAGGCATGGTCTGGCAGGACAGAGACGTGTACCTG
 hu.35-B 1770 AGTACCGCAGATGTCAACACACACAAGGCGTTCTTCCAGGCATGGTCTGGCAGGACAGAGATGTGTACCTT
 hu.58-B 1770 ATCTACTGCAGATGTCAACACACACAAGGCGTTCTTCCAGGCATGGTCTGGCAGGACAGAGACGTGTACCTG
 hu.28-B 1770 AGTACCGCAGATGTCAACACACACAAGGCGTTCTTCCAGGCATGGTCTGGGCAAGACAGAGACGTGTACCTG
 hu.51-B 1770 AGTACCGCAGATGTCAACACACACAAGGCGTTCTTCCAGGCATGGTCTGGCAGGACAGAGATGTGTACCTT
 hu.19-B 1770 AGTACCTCAGATGTCAACACACACAAGGCGTTCTTCCAGGCATGGTCTGGCAGGACAGAGACGTGTACCTG
 hu.49-B 1770 AGTACTGCAGATGTCAACACACACAAGGCGTTCTTCCAGGCATGGTCTGGCAGGACAGAGACGTGCACCTG
 hu.52-B 1770 AGTACCGCAGATGTCAACACACACAAGGCGTTCTTCCAGGCATGGTCTGGCAGGACAGAGATGTGTACCTT
 hu.13-B 1770 AGTACCGCAGATGTCAACACACACAAGGCGTTCTTCCAGGCATGGTCTGGCAGGACAGAGACGTGTACCTG
 AAV2-B 1770 AGTACCGCAGATGTCAACACACACAAGGCGTTCTTCCAGGCATGGTCTGGCAGGACAGAGATGTGTACCTT
 hu.20-B 1770 AGTACCTCAGATGTCAACACACACAAGGCGTTCTTCCAGGCATGGTCTGGCAGGACAGAGACGTGTACCTG
 hu.24-B 1770 AGTACCTCAGATGTCAACACACACAAGGCGTTCTTCCAGGCATGGTCTGGCAGGACAGAGACGTGTACCTG
 hu.64-B 1770 AGTACCTCAGATGTCAACACACACAAGGCGTTCTTCCAGGCATGGTCTGGCAGGACAGAGACGTGTACCTG
 hu.27-B 1770 AGTACCTCAGATGTCAACACACACAAGGCGTTCTTCCAGGCATGGTCTGGCAGGACAGAGACGTGTACCTG
 hu.21-B 1770 AGTACCTCAGATGTCAACACACACAAGGCGTTCTTCCAGGCATGGTCTGGCAGGACAGAGACGTGTACCTG

hu. 22-B 1770 AGCTACCTCAGATGTCAACACACAAGGCGTTCTTCCAGGCATGGTCTGGCAGGACAGAGACGTGTACCTG
 hu. 23-B 1770 AGCTACCTCAGATGTCAACACACAAGGCGTTCTTCCAGGCATGGTCTGGCAGGACAGAGACGTGTACCTG
 hu. 7-C 1770 AACTACTGGAACCTGTCAATCACCAAGGAGCGTTACCTGGCATGGTGTGGCAGGATCGAGACGTGTACCTG
 hu. 61-C 1770 AACTACTGGAACCTGTCAATCACCAAGGAGCGTTACCTGGTATGGTGTGGCAGGATCGAGACGTGTACCTG
 rh. 56-C 1770 AACTACTGGAACCTGTCAATCACCGAGGAGCGTTACCTGGCATGGTGTGGCAGGATCGAGACGTGTACCTG
 hu. 9-C 1770 AACTACAGAAATGTCAATCACACAGGAGCGTTACCTGGTATGGTGTGGCAGGATCGAGACGTGTACCTG
 hu. 54-C 1767 AAGTACTGAACTGTGAATCACCAAGGAGCATTACCTGGTATGGTGTGGCAGGATCGAGACGTGTACCTG
 hu. 53-C 1767 AAGTACTGAACTGTGAATCACCAAGGAGCATTACCTGGTATGGTGTGGCAGGATCGAGACGTGTACCTG
 hu. 60-C 1770 AACTACTGGAACCTGTCAATCACCAAGGAGCGTTACCTGGTATGGTGTGGCAGGATCGAGACGTGTACCTG
 hu. 55-C 1767 AAGTACTGAACTGTGAATCACCAAGGAGCATTACCTGGTATGGTGTGGCAGGATCGAGACGTGTACCTG
 hu. 2-C 1770 AACTACTGGAACCTGTCAATCGCCAAGGAGCGTTACCTGGTATGGTGTGGCAGGATCGAGACGTGTACCTG
 hu. 1-C 1770 AACTACTGGAACCTGTCAATCACCAAGGAGCGTTACCTGGTATGGTGTGGCAGGATCGAGACGTGTACCTG
 hu. 18-C 1770 AACTACTGGAACCTGTCAATCACCAAGGAGCGTTACCTGGTATGGTGTGGCAGGATCGAGACGTGTACCTG
 hu. 3-C 1773 AACTACAGGAACCTGTCAATCACCAAGGAGCGTTACCTGGTATGGTGTGGCAGGATCGAGACGTGTACCTG
 hu. 25-C 1770 AACTACTGGAACCTGTCAATCACCAAGGAGCGTTACCTGGTATGGTGTGGCAGGATCGAGATGTGTACCTT
 hu. 15-C 1770 AACTACTGGAACCTGTCAATCACCAAGGAGCGTTACCTGGTATGGTGTGGCAGGATCGAGACGTGTACCTG
 hu. 16-C 1770 AACTACTGGAACCTGTCAATCACCAAGGAGCGTTACCTGGTATGGTGTGGCAGGATCGAGACGTGTACCTG
 hu. 11-C 1770 AACTACAGAAATGTCAATCACCAAGGAGCGTTACCTGGTATGGTGTGGCAGGATCGAGACGTGTACCTG
 hu. 10-C 1770 AACTACAGAAATGTCAATCACCAAGGAGCGTTACCTGGTATGGTGTGGCAGGATCGAGACGTGTACCTG
 hu. 4-C 1770 AACTACTGGAACCTGTCAATCACCAAGGAGCGTTACCTGGTATGGTGTGGCAGGATCGAGACGTGTACCTG
 rh. 54-D 1776 CCAGACACAAGTTGTCAACAACCAAGGAGCGTTACCTGGCATGGTCTGGCAGAAACCGGACGTGTACCTG
 rh. 48-D 1776 CCAGACACAAGTTGTCAACAACCAAGGAGCGTTACCTGGTATGGTCTGGCAGAAACCGGACGTGTACCTG
 rh. 55-D 1776 CCAGACACAAGTTGTCAACAACCAAGGAGCGTTACCTGGTATGGTCTGGCAGAAACCGGACGTGTACCTG
 rh. 62-D 1776 CCAGACACAAGTTGTCAACAACCAAGGAGCGTTACCTGGTATGGTCTGGCAGAAACCGGACGTGTACCTG
 AAV7-D 1776 CCAGACACAAGTTGTCAACAACCAAGGAGCGTTACCTGGCATGGTCTGGCAGAAACCGGACGTGTACCTG
 rh. 52-E 1779 TATTGTGGGGCCGTCAACAGCCAGGAGCGTTACCTGGCATGGTCTGGCAGAAACCGGACGTGTACTTG
 rh. 51-E 1779 TATTGTGGGGCCGTCAACAGCCAGGAGCGTTACCTGGCATGGTCTGGCAGAAACCGGACGTGTACTTG
 hu. 39-E 1779 TACTGTGGGGCCGTCAACAGCCAGGAGCGTTACCTGGCATGGTCTGGCAGAAACCGGACGTGTACTTG
 rh. 53-E 1779 TATTGTGGGGCCGTCAACAGCCAGGAGCGTTACCTGGCATGGTCTGGCAGAAACCGGACGTGTACTTG
 hu. 37-E 1779 TATTGTGGAAATGTCAACAGCCAGGAGCGTTACCTGGCATGGTCTGGCAGAAACCGGACGTGTACTTG

FIG. 3BV

rh. 43-E	1773	TCAAATTGGA	1900	1910	1920	1930	1940	1950	1960
rh. 50-E	1779	TATTGTGGG						
rh. 49-E	1779	TATTGTGGG						
rh. 61-E	1779	TATTGTGGG						
hu. 41-E	1779	TATTGTGGG						
rh. 64-E	1779	TATTGTGGG						
hu. 42-E	1779	TATTGTGGG						
rh. 57-E	1779	TATTGTGGG						
hu. 40-E	1779	TATTGTGGG						
AAV8-E	1779	TCAAATTGGA						
rh. 58-E	1779	TATTGTGGG						
rh. 40-E	1779	TATTGTGGG						
hu. 67-E	1779	TATTGTGGG						
hu. 17-E	1779	TATTGTGGG						
hu. 6-E	1779	TATTGTGGG						
hu. 66-E	1779	TATTGTGGG						
rh. 38-E	1779	TATTGTGGG						
hu. 32-F	1773	GCAGACCGG						
AAV9/hu	1773	GCAGACCGG						
hu. 31-F	1773	GCAGACCGG						
AAV5	1810	CAAGGACCC						
AAV3-3	1843	CAAGGACCC						
AAV4-4	1837	CAGGTCCCA						
AAV1-A	1843	CAGGTCCCA						
hu. 46-A	1843	CAGGTCCCA						
hu. 48-A	1843	CAGGTCCCA						
hu. 44-A	1843	CAGGTCCCA						

FIG. 3BW

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hu. 43-A 1846 CAGGGTCCCATTTGGGCCAAAATTCTCTACACAGATGGACACTTTCAACCGTCTCCTCTTATGGGCGGCT
 AAV6-A 1843 CAGGGTCCATTTGGGCCAAAATTCTCTACACGGATGGACACTTTCAACCGTCTCCTCTCATGGGCGGCT
 hu. 34-B 1840 CAGGGGCCCCATCTGGGCAAAAGATTCCACACACGACGGACATTTTCAACCCCTCTCCCCCTCATGGGTGGAT
 hu. 47-B 1840 CAGGGGCCCCATCTGGGCAAAAGATTCCACACACGACGGACATTTTCAACCCCTCTCCCCCTCATGGGTGGAT
 hu. 29-B 1840 CAGGGGCCATTTGGGCAAAAGATTCCACACACGACGGACATTTTCAACCCCTCTCCCCCTCATGGGCGGAT
 hu. 63-B 1840 CAGGGGCCCCATCTGGGCAAAAGATTCCACACACGACGGACATTTTCAACCCCTCTCCCCCTCATGGGCGGAT
 hu. 56-B 1840 CAGGGGCCCCATCTGGGCAAAAGATTCCACACACGACGGACATTTTCAACCCCTCTCCCCCTCATGGGCGGAT
 hu. 45-B 1840 CAGGGGCCCCATCTGGGCAAAAGATTCCACACACGACGGACATTTTCAACCCCTCTCCCCCTCATGGGTGGAT
 hu. 57-B 1837 CAGGGGCCCCATCTGGGCAAAAGATTCCACACACGACGGACATTTTCAACCCCTCTCCCCCTCATGGGCGGAT
 hu. 35-B 1840 CAGGGGCCCCATCTGGGCAAAAGATTCCACACACGACGGACATTTTCAACCCCTCTCCCCCTCATGGGTGGAT
 hu. 58-B 1840 CAGGGGCCATCTGGGCAAAAGATTCCGACACACGACGGACATTTTCAACCCCTCTCCCCCTCATGGGCGGAT
 hu. 28-B 1840 CAGGGGCCATCTGGGCAAAAGATTCCACACACGACGGACATTTTCAACCCCTCTCCCCCTCATGGGCGGAT
 hu. 51-B 1840 CAGGGGCCATCTGGGCAAAAGATTCCACACACGACGGACATTTTCAACCCCTCTCCCCCTCATGGGTGGAT
 hu. 19-B 1840 CAGGGGCCATCTGGGCAAAAGATTCCACACACGACGGACATTTTCAACCCCTCTCCCCCTCATGGGCGGAT
 hu. 49-B 1840 CAGGGGCCATCTGGGCAAAAGATTCCACACACGACGGACATTTTCAACCCCTCTCCCCCTCATGGGCGGAT
 hu. 52-B 1840 CAGGGGCCATCTGGGCAAAAGATTCCACACACGACGGACATTTTCAACCCCTCTCCCCCTCATGGGTGGAT
 hu. 13-B 1840 CAGGGGCCATCTGGGCAAAAGATTCCACACACGACGGACATTTTCAACCCCTCTCCCCCTCATGGGCGGAT
 AAV2-B 1840 CAGGGGCCATCTGGGCAAAAGATTCCACACACGACGGACATTTTCAACCCCTCTCCCCCTCATGGGTGGAT
 hu. 20-B 1840 CAGGGGCCATCTGGGCAAAAGATTCCACACACGACGGACATTTTCAACCCCTCTCCCCCTCATGGGCGGAT
 hu. 24-B 1840 CAGGGGCCATCTGGGCAAAAGATTCCACACACGACGGACATTTTCAACCCCTCTCCCCCTCATGGGCGGAT
 hu. 64-B 1840 CAGGGGCCATCTGGGCAAAAGATTCCACACACGACGGACATTTTCAACCCCTCTCCCCCTCATGGGCGGAT
 hu. 27-B 1840 CAGGGGCCATCTGGGCAAAAGATTCCACACACGACGGACATTTTCAACCCCTCTCCCCCTCATGGGCGGAT
 hu. 21-B 1840 CAGGGGCCATCTGGGCAAAAGATTCCACACACGACGGACATTTTCAACCCCTCTCCCCCTCATGGGCGGAT
 hu. 22-B 1840 CAGGGGCCATCTGGGCAAAAGATTCCACACACGACGGACATTTTCAACCCCTCTCCCCCTCATGGGCGGAT
 hu. 23-B 1840 CAGGGGCCATCTGGGCAAAAGATTCCACACACGACGGACATTTTCAACCCCTCTCCCCCTCATGGGCGGAT
 hu. 7-C 1840 CAGGGGCCATTTGGGCAAAAGATTCCCTCACACCGATGGACACTTTTCACTCTTCCACTGATGGGAGGTT
 hu. 61-C 1840 CAGGGGCCATTTGGGCAAAAGATTCCCTCACACCGATGGACACTTTTCACTCTTCCACTGGTGGGAGGTT
 rh. 56-C 1840 CAGGGGCCATTTGGGCAAAAGATTCCCTCACACCGATGGACACTTTTCACTCTTCCACTGATGGGAGGTT
 hu. 9-C 1840 CAGGGGCCATTTGGGCAAAAGATTCCCTCACACCGATGGACACTTTTCACTCTTCCACTGATGGGAGGTT
 hu. 54-C 1837 CAGGGGCCATTTGGGCAAAAGATTCCCTCACGCGGATGGACACTTTTCACTCTTCCACTGATGGGAGGTT

FIG. 3BX

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hu. 53-C 1837 CAGGGACCCATTGTTGGGCCAAGATTCCCTCACACCGATGGACACTTTTCATCCTTCTCCACTGATGGGAGGTT
 hu. 60-C 1840 CAGGGACCCATTGTTGGGCCAAGATTCCCTCACACCGATGGACACTTTTCATCCTTCTCCACTGATGGGAGGTT
 hu. 55-C 1837 CAGGGACCCATTGTTGGGCCAAGATTCCCTCACACCGATGGACACTTTTCATCCTTCTCCACTGATGGGAGGTT
 hu. 2-C 1840 CAGGGACCCATTGTTGGGCCAAGATTCCCTCACACCGATGGACACTTTTCATCCTTCTCCACTGATGGGAGGTT
 hu. 1-C 1840 CAGGGACCCATTGTTGGGCCAAGATTCCCTCACACCGATGGACACTTTTCATCCTTCTCCACTGACGGGAGGTT
 hu. 18-C 1840 CAGGGACCCATTGTTGGGCCAAGATTCCCTCACACCGATGGGACACTTTTCATCCTTCTCCACTAATGGGAGGTT
 hu. 3-C 1843 CAGGGACCCATTGTTGGGCCAAGATTCCCTCACACCGATGGACACTTTTCATCCTTCTCCACTGATGGGAGGTT
 hu. 25-C 1840 CAGGGACCCATTGTTGGGCCAAGATTCCCTCACACCGATGGACACTTTTCATCCTTCTCCACTGATGGGAGGTT
 hu. 15-C 1840 CAGGGACCCATTGTTGGGCCAAGATTCCCTCACACCGATGGACACTTTTCATCCTTCTCCACTTATGGGAGGTT
 hu. 16-C 1840 CAGGGACCCATTGTTGGGCCAAGATTCCCTCACACCGATGGACACTTTTCATCCTTCTCCACTTATGGGAGGTT
 hu. 11-C 1840 CAGGGACCCATTGTTGGGCCAAGATTCCCTCACACCGATGGACACTTTTCATCCTTCTCCACTGATGGGAGGTT
 hu. 10-C 1840 CAGGGACCCATTGTTGGGCCAAGATTCCCTCACACCGATGGACACTTTTCATCCTTCTCCACTGATGGGAGGTT
 hu. 4-C 1840 CAGGGACCCATTGTTGGGCCAAGATTCCCTCACACCGATGGACACTTTTCATCCTTCTCCACTGATGGGAGGTT
 rh. 54-D 1846 CAGGGTCCCATCTGGGCCAAGATTCCCTCACACAGACGGCAACTTTTCAACCCGTCTCCGCTGATGGGCGGCT
 rh. 48-D 1846 CAGGGTCCCATCTGGGCCAAGATTCCCTCACACAGACGGCAACTTTTCAACCCGTCTCCGCTGATGGGCGGCT
 rh. 55-D 1846 CAGGGTCCCATCTGGGCCAAGATTCCCTCACACAGACGGCAACTTTTCAACCCGTCTCCGCTGATGGGCGGCT
 rh. 62-D 1846 CAGGGTCCCATCTGGGCCAAGATTCCCTCACACAGACGGCAACTTTTCAACCCGTCTCCGCTGATGGGCGGCT
 AAV7-D 1846 CAGGGTCCCATCTGGGCCAAGATTCCCTCACACAGATGGCAACTTTTCAACCCGTCTCCTTTGATGGGCGGCT
 rh. 52-E 1849 CAGGGTCCCATTTGGGCCAAGATTCCCTCACACAGATGGCAACTTTTCAACCCGTCTCCTTTAATGGGCGGCT
 rh. 51-E 1849 CAGGGTCCCATTTGGGCCAAGATTCCCTCACACAGATGGCAACTTTTCAACCCGTCTCCTTTAATGGGCGGCT
 hu. 39-E 1849 CAGGGTCCCATTTGGGCCAAGATTCCCTCACACAGATGGCAACTTTTCAACCCGTCTCCTTTAATGGGCGGCT
 rh. 53-E 1849 CAGGGTCCCATTTGGGCCAAGATTCCCTCACACAGATGGCAACTTTTCAACCCGTCTCCTTTAATGGGCGGCT
 hu. 37-E 1849 CAGGGTCCCATCTGGGCCAAGATTCCCTCACACAGATGGCAACTTTTCAACCCGTCTCCTTTAATGGGCGGCT
 rh. 43-E 1843 CAGGGTCCCATCTGGGCCAAGATTCCCTCACACAGATGGCAACTTTTCAACCCGTCTCCTTTAATGGGCGGCT
 rh. 50-E 1849 CAGGGTCCCATTTGGGCCAAGATTCCCTCACACAGATGGCAACTTTTCAACCCGTCTCCTTTAATGGGCGGCT
 rh. 49-E 1849 CAGGGTCCCATTTGGGCCAAGATTCCCTCACACAGATGGCAACTTTTCAACCCGTCTCCTTTAATGGGCGGCT
 rh. 61-E 1849 CAGGGTCCCATTTGGGCCAAGATTCCCTCACACAGATGGCAACTTTTCAACCCGTCTCCTTTAATGGGCGGCT
 hu. 41-E 1849 CAGGGTCCCATCTGGGCCAAGATTCCCTCACACAGATGGCAACTTTTCAACCCGTCTCCTTTAATGGGAGGAT
 rh. 64-E 1849 CAGGGTCCCATTTGGGCCAAGATTCCCTCACACAGATGGCAACTTTTCAACCCGTCTCCTTTAATGGGCGGCT
 hu. 42-E 1849 CAGGGTCCCATCTGGGCCAAGATTCCCTCACACAGATGGCAACTTTTCAACCCGTCTCCTTTAATGGGAGGAC

FIG. 3B4

	1970	1980	1990	2000	2010	2020	2030
rh. 57-E	1849	CAGGGTCCCTATTGGGCCAAGATTCC	CACACAGATGGCAACTT	CACCCGCTCCTTTAATGGCGGGCT			
hu. 40-E	1849	CAGGGTCCCATCTGGGCCAAGATTCC	CACACGACGGCAACTT	CCACCCCTCACCCTTAATGGGAGGAT			
AAV8-E	1849	CAGGGTCCCATCTGGGCCAAGATTCC	CACACGACGGCAACTT	CCACCCGCTCCGCTGATGGCGGGCT			
rh. 58-E	1849	CAGGGTCCCTATTGGGCCAAGATTCC	CACACAGATGGCAACTT	CACCCGCTCCTTTAATGGCGGGCT			
rh. 40-E	1849	CAGGGTCCCATCTGGGCCAAGATTCC	CACACGACGGCAATTTT	CACCCGCTCCTCTGATGGCGGGCT			
hu. 67-E	1849	CAGGGTCCCATCTGGGCCAAGATTCC	CACACGACGGCAACTT	CCACCCCTCACCCTTAATGGGAGGAT			
hu. 17-E	1849	CAGGGTCCCTATTGGGCCAAGATTCC	CACACGACGGCAACTT	TCATCCTTCGCCGCTGATGGGAGGCT			
hu. 6-E	1849	CAGGGTCCCTATTGGGCCAAGATTCC	CACACGACGGCAACTT	TCATCCTTCGCCGCTGATGGGAGGCT			
hu. 66-E	1849	CAGGGTCCCATCTGGGCCAAGATTCC	CACACGACGGCAACTT	CCACCCCTCACCCTTAATGGGAGGAT			
rh. 38-E	1849	CAGGGTCCCATCTGGGCCAAGATTCC	CACACGACGGCAACTT	CCACCCCTCACCCTTAATGGGAGGAT			
hu. 32-F	1843	CAAGGACCCATTGGGCCAAGATTCC	CACACGACGGCAACTT	TCCACCCCTTCGCCCTAATGGGAGGGT			
AAV9/hu	1843	CAAGGACCCATTGGGCCAAGATTCC	CACACGACGGCAACTT	TCCACCCCTTCGCCCTGATGGGAGGGT			
hu. 31-F	1843	CAAGGACCCATTGGGCCAAGATTCC	CACACGACGGCAACTT	TCCACCCCTTCGCCCTAATGGGAGGGT			
AAV5	1880	TCGGACTCAAAACACCCACCGCCCATGATGCTCATCAAGAAACACGCTGTGCCCCGGAAT--	ATCACCAG				
AAV3-3	1913	TTGGACTGAAACATCCGCCTCCTCAAATCATGATCAAAATACTCCGGTACCGGCAAAATCCTCCGACGAC					
AAV4-4	1907	TTGGGCTGAAACACCCCGCCTCCTCAAATTTTATCAAGAAACACCCCGGTACCTGCGAAATCCTGCAACGAC					
AAV1-A	1913	TTGGACTCAAGAACCCCGCCTCCTCAGATCCTCATCAAAACACGCTGTTCTTCCGGAATCCTCCGCGGGA					
hu. 46-A	1913	TTGGACTCAAGAACCCCGCCTCCTCAGATCCTCATCAAAACACGCTGTTCTTCCGGAATCCTCCGCGGGA					
hu. 48-A	1913	TTGGACTCAAGAACCCCGCCTCCTCAGATCCTCATCAAAACACGCTGTTCTTCCGGAATCCTCCGCGGGA					
hu. 44-A	1913	TTGGACTCAAGAACCCCGCCTCCTCAGATCCTCATCAAAACACGCTGTTCTTCCGGAATCCTCCGCGGGA					
hu. 43-A	1916	TTGGACTCAAGAACCCCGCCTCCTCAGATCCTCATCAAAACACGCTGTTCTTCCGGAATCCTCCGCGGGA					
AAV6-A	1913	TTGGACTTAAGCACCCCGCCTCCTCAGATCCTCATCAAAACACGCTGTTCTTCCGGAATCCTCCGCGGGA					
hu. 34-B	1910	TCGGACTTAAACACCCCTCCTCCACAGATTCTCATCAAGAACACCCCGGTACCTGCGAAATCCTTCGACCCAC					
hu. 47-B	1910	TCGGACTTAAACACCCCTCCTCCACAGATTCTCATCAAGAACACCCCGGTACCTGCGAAATCCTTCGACCCAC					
hu. 29-B	1910	TTGGACTTAAACACCCCTCCTCCACAGATTCTCATCAAGAACACCCCGGTACCTGCGAAATCCTTCGACCCAC					
hu. 63-B	1910	TCGGACTTAAACACCCCTCCCGCGCAGATTCTCATCAAGAACACCCCGGTACCTGCGAAATCCTTCGACTAC					
hu. 56-B	1910	TTGGACTTAAACACCCCTCCTCCACAGATTCTCATTAAGAAATACCCCGGTACCTGCGAAATCCTTCGACCCAC					

FIG. 3BZ

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hu. 45-B 1910 TCGGACTTAAACACCCCTCCTCCACAGATTCTCATCAAGAACAACCCCCGGTACCTGCGAATCCTTCGACCAC
 hu. 57-B 1907 TTGGACTTAAACACCCCTCCTCCACAGATTCTCATTAAGAATAACCCCGGTACCTGCGAATCCTTCGACCAC
 hu. 35-B 1910 TCGGACTTAAACACCCCTCCTCCACAGATTCTCATCAAGAACAACCCCGGTACCTGCGAATCCTTCGACCAC
 hu. 58-B 1910 TCGGACTTAAACACCCCTCCTCCACAGATTCTCATCAAAAACAACCCCGGTACCTGCGAATCCTTCGACCAC
 hu. 28-B 1910 TTGGACTTAAACACCCCTCCTCCACAGATTCTCATCAAGAACAACCCCGGTACCTGCGAATCCTTCGACCAC
 hu. 51-B 1910 TCGGACTTAAACACCCCTCCTCCACAGATTCTCATCAAGAACAACCCCGGTACCTGCGAATCCTTCGACCAC
 hu. 19-B 1910 TCGGACTTAAACACCCCTCCTCCACAAATTCTCATCAAGAACAACCCCGGTACCTGCGAATCCTTCGACCAC
 hu. 49-B 1910 TTGGACTTAAACACCCCTCCTCCACAGATTCTCATCAAGAACAACCCCGGTACCTGCGAATCCTTCGACCAC
 hu. 52-B 1910 TCGGACCTAAACACCCCTCCTCCACAGATTCTCATCAAGAACAACCCCGGTACCTGCGAATCCTTCGACCAC
 hu. 13-B 1910 TCGGACTTAAACACCCCTCCTCCACAGATTCTCATCAAGAACAACCCCGGTACCTGCGAATCCTTCGACCAC
 AAV2-B 1910 TCGGACTTAAACACCCCTCCTCCACAGATTCTCATCAAGAACAACCCCGGTACCTGCGAATCCTTCGACCAC
 hu. 20-B 1910 TCGGACTTAAACACCCCTCCTCCACAAATTCTCATCAAGAACAACCCCGGTACCTGCGAATCCTTCGACCAC
 hu. 24-B 1910 TCGGACTTAAACACCCCTCCTCCACAAATTCTCATCAAGAACAACCCCGGTACCTGCGAATCCTTCGACCAC
 hu. 64-B 1910 TCGGACTTAAACACCCCTCCTCCCGCAGATTCTCATCAAGAACAACCCCGGTACCTGCGAATCCTTCGACCAC
 hu. 27-B 1910 TCGGACTTAAACACCCCTCCTCCACAAATTCTCATCAAGAACAACCCCGGTACCTGCGAATCCTTCGACCAC
 hu. 21-B 1910 TCGGACTTAAACACCCCTCCTCCACAAATTCTCATCAAGAACAACCCCGGTACCTGCGAATCCTTCGACCAC
 hu. 22-B 1910 TCGGACTTAAACACCCCTCCTCCACAAATTCTCATCAAGAACAACCCCGGTACCTGCGAATCCTTCGACCAC
 hu. 23-B 1910 TTGGACTTAAACACCCCTCCTCCACAAATTCTCATCAAGAACAACCCCGGTACCTGCGAATCCTTCGACCAC
 hu. 7-C 1910 TTGGGCTCAAACACCCCGCTCCTCAGATCATGATCAAAAACACTCCCGTTCCAGCCAAATCCTCCCAAAA
 hu. 61-C 1910 TTGGACTCAAACACCCACCTCCTCAAATCATGATCAAAAACACTCCCGTTCCAGCCAAATCCTCCCAAAA
 rh. 56-C 1910 TTGGGCTCAAACACCCCGCTCCTCAAATCATGATCAAAAACACTCCCGTTCCAGCCAAATCCTCCCAAAA
 hu. 9-C 1910 TTGGACTCAAACACCCCGCTCCTCAAATCATGATCAAAAACACTCCCGTTCCAGCCAAATCCTCCCAAAA
 hu. 54-C 1907 TTGGACTCAAACACCCCGCTCCTCAGATTATGATCAAAAACACTCCCGTTCCAGCCAAATCCTCCCAAAA
 hu. 53-C 1907 TTGGACTCAAACACCCCGCTCCTCAGATTATGATCAAAAACACTCCCGTTCCAGCCAAATCCTCCCAAAA
 hu. 60-C 1910 TTGGACTCAAACACCCACCTCCTCAAATCATGATCAAAAACACTCCCGTTCCAGCCAAATCCTCCCAAAA
 hu. 55-C 1907 TTGGACTCAAACACCCCGCTCCTCAGATTATGATCAAAAACACTCCCGTTCCAGCCAAATCCTCCCAAAA
 hu. 2-C 1910 TTGGACTCAAACACCCCGCTCCTCAGATCATGATCAAAAACACTCCCGTTCCAGCCAAATCCTCCCAAAA
 hu. 1-C 1910 TTGGACTCAAACACCCCGCTCCTCAGATCATGATCAAAAACACTCCCGTTCCAGCCAAATCCTCCCAAAA
 hu. 18-C 1910 TTGGGCTCAAACACCCCGCTCCTCAGATCATGATCAAAAACACTCCCGTTCCAGCCAAATCCTCCTACAAA
 hu. 3-C 1913 TTGGACTCAAACACCCCGCTCCTCAGATCATGATCAAAAAGCACTCCCGTTCCAGCCAAATCCTCCCAAAA

FIG. 3CA

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hu.25-C 1910 TTGGACTCAAACACCCGCCCTCCTCAGATTATGATCAAAAACACTCCCGTTCCAGCCAAATCCTCCTACAAA
 hu.15-C 1910 TTGGACTCAAACACCCACCTCCTCAGATCATGATTAAAAACACTCCCGTTCCAGCCAAATCCTCCTACAAA
 hu.16-C 1910 TTGGACTCAAACACCCACCTCCTCAGATCATGATTAAAAACACTCCCGTTCCAGCCAAATCCTCCTACAAA
 hu.11-C 1910 TTGGACTCAAACACCCGCCCTCCTCAATCATGATCAAAAACACTCCCGTTCCAGCCAAATCCTCCTACAAA
 hu.10-C 1910 TTGGACTCAAACACCCGCCCTCCTCAATCATGATCAAAAACACTCCCGTTCCAGCCAAATCCTCCTACAAA
 hu.4-C 1910 TTGGACTCAAACACCCGCCCTCCTCAGATCATGATCAAAAACACTCCCGTTCCAGCCAAATCCTCCTACAAA
 rh.54-D 1916 TTGGACTGAAGCATCCGCCCTCCTCAGATCCTGATCAAAAACACTCCTGTTCTCTGCTAATCCCCGGAGGT
 rh.48-D 1916 TTGGACTGAAGCATCCGCCCTCCTCAGATCCTGATCAAAAACACTCCTGTTCTCTGCTAATCCCCGGAGGT
 rh.55-D 1916 TTGGACTGAAGCATCCGCCCTCCTCAGATCCTGATCAAAAACACTCCTGTTCTCTGCTAATCCCCGGAGGT
 rh.62-D 1916 TTGGACTGAAGCATCCGCCCTCCTCAGATCCTGATCAAAAACACTCCTGTTCTCTGCTAATCCCCGGAGGT
 AAV7-D 1916 TTGGACTTAAACATCCGCCCTCCTCAGATCCTGATCAAGAACACTCCCGTTCCCGTAAATCCTCCTCGAGGT
 rh.52-E 1919 TTGGACTTAAACATCCGCCCTCCTCAGATCCTCATCAAAAACACTCCTGTTCTCTGCGGATCCTCCAACAGC
 rh.51-E 1919 TTGGACTTAAACATCCGCCCTCCTCAGATCCTCATCAAAAACACTCCTGTTCTCTGCGGATCCTCCAACAGC
 hu.39-E 1919 TTGGACTTAAACATCCGCCCTCCTCAGATCCTCATCAAAAACACTCCTGTTCTCTGCGGATCCTCCAACAGC
 rh.53-E 1919 TTGGACTTAAACATCCGCCCTCCTCAGATCCTCATCAAAAACACTCCTGTTCTCTGCGGATCCTCCAACAGC
 hu.37-E 1919 TTGGACTGAAGCACCACCTCCTCAGATCCTGATCAAGAACACGCCGGTACCTGCGGATCCTCCAACAAC
 rh.43-E 1913 TTGGCCTGAAACATCCTCCGCCCTCAGATCCTGATCAAGAACACGCCCTGTACCTGCGGATCCTCCGACCAAC
 rh.50-E 1919 TTGGACTTAAACATCCGCCCTCCTCAGATCCTCATCAAAAACACTCCTGTTCTCTGCGGATCCTCCAACAGC
 rh.49-E 1919 TTGGACTTAAACATCCGCCCTCCTCAGATCCTCATCAAAAACACTCCTGTTCTCTGCGGATCCTCCAACAGC
 rh.61-E 1919 TTGGACTTAAACATCCGCCCTCCTCAGGTCTCATCAAAAACACTCCTGTTCTCTGCGGATCCTCCAACAGC
 hu.41-E 1919 TTGGACTGAAGCACCACCTCCTCAGATCCTGATCAAGAACACGCCGGTACCTGCGGATCCTCCAACAAC
 rh.64-E 1919 TTGGACTTAAACATCCGCCCTCCTCAGATCCTCATCAAAAACACTCCTGTTCTCTGCGGATCCTCCAACAGC
 hu.42-E 1919 TTGGACTGAAGCACCACCTCCTCAGATCCTGATCAAGAACACGCCGGTACCTGCGGATCCTCCAACAAC
 rh.57-E 1919 TTGGACTTAAACATCCGCCCTCCTCAGATCCTCATCAAAAACACTCCTGTTCTCTGCGGATCCTCCAACAGC
 hu.40-E 1919 TTGGACTGAAGCACCACCTCCTCAGATCCTGATCAAGAACACGCCGGTACCTGCGGATCCTCCAACAAC
 AAV8-E 1919 TTGGCCTGAAACATCCTCCGCCCTCAGATCCTGATCAAGAACACGCCCTGTACCTGCGGATCCTCCGACCAAC
 rh.58-E 1919 TTGGACTTAAACATCCGCCCTCCTCAGATCCTCATCAAAAACACTCCTGTTCTCTGCGGATCCTCCAACAGC
 rh.40-E 1919 TTGGACTGAAGCACCACCTCCTCAGATCCTGATCAAGAAATACGCCGGTACCTGCGGATCCTCCAACAGC
 hu.67-E 1919 TTGGACTGAAGCACCACCTCCTCAGATCCTGATCAAGAACACGCCGGTACCTGCGGATCCTCCAACAGC
 hu.17-E 1919 TTGGACTGAAACACCCGCCCTCCTCAGATCCTGATTAAGAATACACCTGTTCCCGGGATCCTCCAACACTAC

FIG. 3CB

hu. 6-E	1919	TTGGACTGAAACACCCGCCCTCCTCAGATCCTGATTAAAGAATACACCTGTTCCCGGGATCCTCCAACCTAC	2040	2050	2060	2070	2080	2090	2100
hu. 66-E	1919	TTGGACTGAAGCACCCACCTCCTCAGATCCTGATCAAGAACAACGCCGTACCTGCGGATCCTCCAACAAC							
rh. 38-E	1919	TTGGACTGAAGCACCCACCTCCTCAGATCCTGATCAAGAACAACGCCGTACCTGCGGATCCTCCAACAAC							
hu. 32-F	1913	TTGGAATGAAGCACCCGCCCTCCTCAGATCCTCATCAAAAACACACCTGTACCTGCGGATCCTCCAACGGC							
AAV9/hu	1913	TTGGAATGAAGCACCCGCCCTCCTCAGATCCTCATCAAAAACACACCTGTACCTGCGGATCCTCCAACGGC							
hu. 31-F	1913	TTGGAATGAAGCACCCGCCCTCCTCAGATCCTCATCAAAAACACACCTGTACCTGCGGATCCTCCAACGGC							
AAV5	1947	CTTCTCGGACGTGCCCCGTACGACGCTTCATCACCCAGTACAGCACCCGGGCAGGTCAACCGTGGAGATGGAG						
AAV3-3	1983	TTTCAGCCCCGGCCAAGTTTGCTTCATTTATCACTCAGTACTCCACTGGACAGGTCAAGCGTGGAAATTGAG							
AAV4-4	1977	CTTCAGCTCTACTCCGGTAACTCCTTCATTACTCAGTACAGCACTGGCCAGGTGTCGGTGCAGATTGAC							
AAV1-A	1983	GTTTTCAGCTACAAAGTTTGCTTCATTATCATCACCCAAATACTCCACAGGACAAGTGAGTGTGGAAATTGAA							
hu. 46-A	1983	GTTTTCAGCTACAAAGTTTGCTTCATTATCATCACCCAAATACTCCACAGGACAAGTGAGTGTGGAAATTGAA							
hu. 48-A	1983	GTTTTCAGCTACAAAGTTTGCTTCATTATCATCACCCAAATACTCCACAGGACAAGTGAGTGTGGAAATTGAA							
hu. 44-A	1983	GTTTTCAGCTACAAAGTTTGCTTCATTATCATCACCCAAATACTCCACAGGACAAGTGAGTGTGGAAATTGAA							
hu. 43-A	1986	GTTTTCAGCTACAAAGTTTGCTTCATTATCATCACCCAAATACTCCACAGGACAAGTGAGTGTGGAAATTGAA							
AAV6-A	1983	GTTTTCGGCTACAAAGTTTGCTTCATTATCATCACCCAGTATTCACACAGGACAAGTGAGCGTGGAGATTGAA							
hu. 34-B	1980	CTTCAGTGGGCAAAAGTTTGCTTCCTTCATCACACAGTACTCCACGGGACAGGTCAAGCGTGGAGATCGAG							
hu. 47-B	1980	CTTCAGTGGGCAAAAGTTTGCTTCCTTCATCACACAGTACTCCACGGGACAGGTCAAGCGTGGAGATCGAG							
hu. 29-B	1980	CTTCAGTGGGCAAAAGTTTGCTTCCTTCATCACACAGTACTCCACGGGACAGGTCAAGCGTGGAGATCGAG							
hu. 63-B	1980	CTTCAGTGGGCAAAAGTTTGCTTCCTTCATCACACAGTACTCCACGGGACAGGTCAAGCGTGGAGATCGAG							
hu. 56-B	1980	CTTCAGCGGGCAAAAGTTTGCTTCCTTCATCACACAGTATTCACCGGGCAGGTCAAGCGTGGAGATCGAG							
hu. 45-B	1980	CTTCAGTGGGCAAAAGTTTGCTTCCTTCATCACACAGTACTCCACGGGACAGGTCAAGCGTGGAGATCGAG							
hu. 57-B	1977	CTTCAGCGGGCAAAAGTTTGCTTCCTTCATCACACAGTATTCACCGGGCAGGTCAAGCGTGGAGATCGAG							
hu. 35-B	1980	CTTCAGTGGGCAAAAGTTTGCTTCCTTCATCACACAGTACTCCACGGGACAGGTCAAGCGTGGAGATCGAG							
hu. 58-B	1980	CTTCAGTGGGCAAAAGTTTGCTTCCTTCATCACACAGTATTCACCGGGCAGGTCAAGCGTGGAGATCGAG							
hu. 28-B	1980	CTTCAGTGGGCAAAAGTTTGCTTCCTTCATCACACAGTACTCCACGGGACAGGTCAAGCGTGGAGATCGAG							
hu. 51-B	1980	CTTCAGTGGGCAAAAGTTTGCTTCCTTCATCACACAGTACTCCACGGGACAGGTCAAGCGTGGAGATCGAG							
hu. 19-B	1980	TTTCAGTGGGCAAAAGTTTGCTTCCTTCATCACACAGTACTCCACGGGACAGGTCAAGCGTGGAGATCGAG							

hu. 49-B 1980 CTTCAGTGGGCAAAGTTTGCTTCTTCATCACACAGTATTCCACAGGGCAGGTACGCGTGGAGATCGAG
 hu. 52-B 1980 CTTCAGTGGGCAAAGTTTGCTTCTTCATCACACAGTACTCCACGGGACAGGTACGCGTGGAGATCGAG
 hu. 13-B 1980 CTTCAGTGGGCAAAGTTTGCTTCTTCATCACACAGTATTCCACGGGGCAGGTACGCGTGGAGATCGAG
 AAV2-B 1980 CTTCAGTGGGCAAAGTTTGCTTCTTCATCACACAGTACTCCACGGGACAGGTACGCGTGGAGATCGAG
 hu. 20-B 1980 TTTTCAGTGGGCAAAGTTTGCTTCTTCATCACACAGTACTCCACGGGGCAGGTACGCGTGGAGATCGAG
 hu. 24-B 1980 TTTTCAGTGGGCAAAGTTTGCTTCTTCATCACACAGTACTCCACGGGGCAGGTACGCGTGGAGATCGAG
 hu. 64-B 1980 CTTTCAGTGGGCAAAGTTTGCTTCTTCATCACACAGTACTCCACGGGGCAGGTACGCGTGGAGATCGAG
 hu. 27-B 1980 TTTTCAGTGGGCAAAGTTTGCTTCTTCATCACACAGTACTCCACGGGGCAGGTACGCGTGGAGATCGAG
 hu. 21-B 1980 TTTTCAGTGGGCAAAGTTTGCTTCTTCATCACACAGTACTCCACGGGGCAGGTACGCGTGGAGATCGAG
 hu. 22-B 1980 TTTTCAGTGGGCAAAGTTTGCTTCTTCATCACACAGTACTCCACGGGGCAGGTACGCGTGGAGATCGAG
 hu. 23-B 1980 TTTTCAGTGGGCAAAGTTTGCTTCTTCATCACACAGTACTCCACGGGGCAGGTACGCGTGGAGATCGAG
 hu. 7-C 1980 CTTTCAGTTCTGCCAAGTTTGCTTCTTCATCACACAGTATTCCACGGGGCAGGTACGCGTGGAGATCGAG
 hu. 61-C 1980 CTTTCAGTTCTGCCAAGTTTGCTTCTTCATCACACAGTATTCCACGGGGCAGGTACGCGTGGAGATCGAG
 rh. 56-C 1980 CTTTCAGTTCTGCCAAGTTTGCTTCTTCATCACACAGTATTCCACGGGGCAGGTACGCGTGGAGATCGAG
 hu. 9-C 1980 CTTTCAGTTCTGCCAAGTTTGCTTCTTCATCACACAGTATTCCACGGGGCAGGTACGCGTGGAGATCGAG
 hu. 54-C 1977 CTTTCAGTTCTGCCAAGTTTGCTTCTTCATCACACAGTATTCCACGGGGCAGGTACGCGTGGAGATCGAG
 hu. 53-C 1977 CTTTCAGTTCTGCCAAGTTTGCTTCTTCATCACACAGTATTCCACGGGGCAGGTACGCGTGGAGATCGAG
 hu. 60-C 1980 CTTTCAGTTCTGCCAAGTTTGCTTCTTCATCACACAGTATTCCACGGGGCAGGTACGCGTGGAGATCGAG
 hu. 55-C 1977 CTTTCAGTTCTGCCAAGTTTGCTTCTTCATCACACAGTATTCCACGGGGCAGGTACGCGTGGAGATCGAG
 hu. 2-C 1980 CTTTCAGTTCTGCCAAGTTTGCTTCTTCATCACACAGTATTCCACGGGGCAGGTACGCGTGGAGATCGAG
 hu. 1-C 1980 CTTTCAGTTCTGCCAAGTTTGCTTCTTCATCACACAGTATTCCACGGGGCAGGTACGCGTGGAGATCGAG
 hu. 18-C 1980 CTTTCAGTTCTGCCAAGTTTGCTTCTTCATCACACAGTATTCCACGGGGCAGGTACGCGTGGAGATCGAG
 hu. 3-C 1983 CTTTCAGTTCTGCCAAGTTTGCTTCTTCATCACACAGTATTCCACGGGGCAGGTACGCGTGGAGATCGAG
 hu. 25-C 1980 CTTTCAGTTCTGCCAAGTTTGCTTCTTCATCACACAGTATTCCACGGGGCAGGTACGCGTGGAGATCGAG
 hu. 15-C 1980 CTTTCAGTTCTGCCAAGTTTGCTTCTTCATCACACAGTATTCCACGGGGCAGGTACGCGTGGAGATCGAG
 hu. 16-C 1980 CTTTCAGTTCTGCCAAGTTTGCTTCTTCATCACACAGTATTCCACGGGGCAGGTACGCGTAGAGATCGAG
 hu. 11-C 1980 CTTTCAGTTCTGCCAAGTTTGCTTCTTCATCACACAGTATTCCACGGGGCAGGTACGCGTGGAGATTGAG
 hu. 10-C 1980 CTACAGTTCTGCCAAGTTTGCTTCTTCATCACACAGTATTCCACGGGGCAGGTACGCGTGGAGATTGAG
 hu. 4-C 1980 CTTTCAGTTCTGCCAAGTTTGCTTCTTCATCACACAGTATTCCACGGGGCAGGTACGCGTGGAGATCGAG
 rh. 54-D 1986 GTTTACGCCCTGCCAAGTTTGCTTCTTCATCACACAGTACAGCACCGGCCAGGTACGCGTGGAGATCGAG

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rh. 48-D 1986 GTTTACGCCCTGCCAAGTTTGCTTCTTTTCATCACACAGTACAGCACCGGCCAGGTCAGCGTGGAGATCGAG
 rh. 55-D 1986 GTTTACGCCCTGCCAAGTTTGCTTCTTTTCATCACACAGTACAGCACCGGCCAGGTCAGCGTGGAGATCGAG
 rh. 62-D 1986 GTTTACGCCCTGCCAAGTTTGCTTCTTTTCATCACACAGTACAGCACCGGCCAGGTCAGCGTGGAGATCGAG
 AAV7-D 1986 GTTTACTCTGCCAAGTTTGCTTCGTTTCATCACACAGTACAGCACCGGCCAGGTCAGCGTGGAAATCGAG
 rh. 52-E 1989 GTTCAACCCAGGCCAAGCTGAATTTCTTCATCAGCAGTACAGCACCGGCCAGGTCAGCGTGGAGATCGAG
 rh. 51-E 1989 GTTCAACCCAGGCCAAGCTGAATTTCTTCATCAGCAGTACAGCACCGGCCAGGTCAGCGTGGAGATCGAG
 hu. 39-E 1989 GTTCAACCCAGGCCAAGCTGAATTTCTTCATCGGCAGTACAGCACCGGCCAGGTCAGCGTGGAGATCGAG
 rh. 53-E 1989 GTTCAACCCAGGCCAAGCTGAATTTCTTCATCAGCAGTACAGCACCGGCCAGGTCAGCGTGGAGATCGAG
 hu. 37-E 1989 GTTCAGCCAGCGGAAATTGGCTTCTTCATTACGCAGTACAGCACCGGCCAGGTCAGCGTGGAAATCGAG
 rh. 43-E 1983 CTTCAACCCAGTCAAAGCTGAACTCTTTTCATCAGCAATACAGCACCGGCCAGGTCAGCGTGGAAATCGAA
 rh. 50-E 1989 GTTCAACCCAGGCCAAGCTGAATTTCTTCATCAGCAGTACAGCACCGGCCAGGTCAGCGTGGAGATCGAG
 rh. 49-E 1989 GTTCAACCCAGGCCAAGCTGAATTTCTTCATCAGCAGTACAGCACCGGCCAGGTCAGCGTGGAGATCGAG
 rh. 61-E 1989 GTTCAACCCAGGCCAAGCTGAATTTCTTCATCAGCAGTACAGCACCGGCCAGGTCAGCGTGGAGATCGAG
 hu. 41-E 1989 GTTCAGCCAGCGGAAATTGGCTTCTTCATTACGCAGTACAGCACCGGCCAGGTCAGCGTGGAAATCGAG
 rh. 64-E 1989 GTTCAACCCAGGCCAAGCTGAATTTCTTCATCAGCAGTACAGCACCGGCCAGGTCAGCGTGGAGATCGTG
 hu. 42-E 1989 GTTCAGCCAGCGGAAATTGGCTTCTTCATTACGCAGTACAGCACCGGCCAGGTCAGCGTGGAAATCGAG
 rh. 57-E 1989 GTTCAACCCAGGCCAAGCTGAATTTCTTCATCAGCAGTACAGCACCGGCCAGGTCAGCGGAGATCGAG
 hu. 40-E 1989 GTTCAGCCAGCGGAAATTGGCTTCTTCATTACGCAGTACAGCACCGGCCAGGTCAGCGTGGAAATCGAG
 AAV8-E 1989 CTTCAACCCAGTCAAAGCTGAACTCTTTTCATCAGCAATACAGCACCGGCCAGGTCAGCGTGGAAATCGAA
 rh. 58-E 1989 GTTCAACCCAGGCCAAGCTGAATTTCTTCATCAGCAGTACAGCACCGGCCAGGTCAGCGTGGAGATCGAG
 rh. 40-E 1989 GTTCAGCCAGCGGAAATTGGCTTCTTCATCAGCAGTACAGCACCGGCCAGGTCAGCGTGGAGATCGAG
 hu. 67-E 1989 GTTCAGCCAGCGGAAATTGGCTTCTTCATTACGCAGTACAGCACCGGCCAGGTCAGCGTGGAAATCGAG
 hu. 17-E 1989 CTTCAGTCAAGCCCAAGCTGGCGTCTTCATCAGCAGTACAGCACCGGCCAGGTCAGCGTGGAAATCGAA
 hu. 6-E 1989 CTTCAGTCAAGCCCAAGCTGGCGTCTTCATCAGCAGTACAGCACCGGCCAGGTCAGCGTGGAAATCGAA
 hu. 66-E 1989 GTTCAGCCAGCGGAAATTGGCTTCTTCATTACGCAGTACAGCACCGGCCAGGTCAGCGTGGAAATCGAG
 rh. 38-E 1989 GTTCAGCCAGCGGAAATTGGCTTCTTCATTACGCAGTACAGCACCGGCCAGGTCAGCGTGGAAATCGAG
 hu. 32-F 1983 TTTCAATAAGGACAAAGCTGAACTCTTTTCATCAGCCAGTATTCTACTGGCCCAAGTCAGCGTGGAGATTGAG
 AAV9/hu 1983 CTTCAACCAAGGACAAAGCTGAACTCTTTTCATCAGCCAGTATTCTACTGGCCCAAGTCAGCGTGGAGATCGAG
 hu. 31-F 1983 TTTCAATAAGGACAAAGCTGAACTCTTTTCATCAGCCAGTATTCTACTGGCCCAAGTCAGCGTGGAGATTGAG

FIG. 3CE

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	2110	2120	2130	2140	2150	2160	2170
AAV5	2017	2018	2019	2020	2021	2022	2023
AAV3-3	2053	2054	2055	2056	2057	2058	2059
AAV4-4	2047	2048	2049	2050	2051	2052	2053
AAV1-A	2053	2054	2055	2056	2057	2058	2059
hu.46-A	2053	2054	2055	2056	2057	2058	2059
hu.48-A	2053	2054	2055	2056	2057	2058	2059
hu.44-A	2053	2054	2055	2056	2057	2058	2059
hu.43-A	2056	2057	2058	2059	2060	2061	2062
AAV6-A	2053	2054	2055	2056	2057	2058	2059
hu.34-B	2050	2051	2052	2053	2054	2055	2056
hu.47-B	2050	2051	2052	2053	2054	2055	2056
hu.29-B	2050	2051	2052	2053	2054	2055	2056
hu.63-B	2050	2051	2052	2053	2054	2055	2056
hu.56-B	2050	2051	2052	2053	2054	2055	2056
hu.45-B	2050	2051	2052	2053	2054	2055	2056
hu.57-B	2047	2048	2049	2050	2051	2052	2053
hu.35-B	2050	2051	2052	2053	2054	2055	2056
hu.58-B	2050	2051	2052	2053	2054	2055	2056
hu.28-B	2050	2051	2052	2053	2054	2055	2056
hu.51-B	2050	2051	2052	2053	2054	2055	2056
hu.19-B	2050	2051	2052	2053	2054	2055	2056
hu.49-B	2050	2051	2052	2053	2054	2055	2056
hu.52-B	2050	2051	2052	2053	2054	2055	2056
hu.13-B	2050	2051	2052	2053	2054	2055	2056
AAV2-B	2050	2051	2052	2053	2054	2055	2056
hu.20-B	2050	2051	2052	2053	2054	2055	2056
hu.24-B	2050	2051	2052	2053	2054	2055	2056
hu.64-B	2050	2051	2052	2053	2054	2055	2056

FIG. 3Cf

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hu.27-B 2050 TGGGAGCTGCAGAAAGGAGAACAGCAAACGCTGGAATCCCGAAATTTCAGTACACTTCCAACCTACAACAAAT
 hu.21-B 2050 TGGGAGCTGCAGAAAGGAGAACAGCAAACGCTGGAATCCCGAAATTTCAGTACACTTCCAACCTACAACAAAT
 hu.22-B 2050 TGGGAGCTGCAGAAAGGAGAACAGCAAACGCTGGAATCCCGAAATTTCAGTACACTTCCAACCTACAACAAAT
 hu.23-B 2050 TGGGAGCTGCAGAAAGGAGAACAGCAAACGCTGGAATCCCGAAATTTCAGTACACTTCCAACCTACAACAAAT
 hu.7-C 2050 TGGGAGCTGCAGAAAGGAGAACAGCAAACGCTGGAATCCCGAAATTTCAGTACACTTCCAACCTACAACAAAT
 hu.61-C 2050 TGGGAGCTGCAGAAAGGAGAACAGCAAACGCTGGAATCCCGAAATTTCAGTACACTTCCAACCTACAACAAAT
 rh.56-C 2050 TGGGAGCTGCAGAAAGGAGAACAGCAAACGCTGGAATCCCGAAATTTCAGTACACTTCCAACCTACAACAAAT
 hu.9-C 2050 TGGGAGCTGCAGAAAGGAGAACAGCAAACGCTGGAATCCCGAAATTTCAGTACACTTCCAACCTACAACAAAT
 hu.54-C 2047 TGGGAGCTGCAGAAAGGAGAACAGCAAACGCTGGAATCCCGAAATTTCAGTACACTTCCAACCTACAACAAAT
 hu.53-C 2047 TGGGAGCTGCAGAAAGGAGAACAGCAAACGCTGGAATCCCGAAATTTCAGTACACTTCCAACCTACAACAAAT
 hu.60-C 2050 TGGGAGCTGCAGAAAGGAGAACAGCAAACGCTGGAATCCCGAAATTTCAGTACACTTCCAACCTACAACAAAT
 hu.55-C 2047 TGGGAGCTGCAGAAAGGAGAACAGCAAACGCTGGAATCCCGAAATTTCAGTACACTTCCAACCTACAACAAAT
 hu.2-C 2050 TGGGAGCTGCAGAAAGGAGAACAGCAAACGCTGGAATCCCGAAATTTCAGTACACTTCCAACCTACAACAAAT
 hu.1-C 2050 TGGGAGCTGCAGAAAGGAGAACAGCAAACGCTGGAATCCCGAAATTTCAGTACACTTCCAACCTACAACAAAT
 hu.18-C 2050 TGGGAGCTGCAGAAAGGAGAACAGCAAACGCTGGAATCCCGAAATTTCAGTACACTTCCAACCTACAACAAAT
 hu.3-C 2053 TGGGAGCTGCAGAAAGGAGAACAGCAAACGCTGGAATCCCGAAATTTCAGTACACTTCCAACCTACAACAAAT
 hu.25-C 2050 TGGGAGCTGCAGAAAGGAGAACAGCAAACGCTGGAATCCCGAAATTTCAGTACACTTCCAACCTACAACAAAT
 hu.15-C 2050 TGGGAGCTGCAGAAAGGAGAACAGCAAACGCTGGAATCCCGAAATTTCAGTACACTTCCAACCTACAACAAAT
 hu.16-C 2050 TGGGAGCTGCAGAAAGGAGAACAGCAAACGCTGGAATCCCGAAATTTCAGTACACTTCCAACCTACAACAAAT
 hu.11-C 2050 TGGGAGCTGCAGAAAGGAGAACAGCAAACGCTGGAATCCCGAAATTTCAGTACACTTCCAACCTACAACAAAT
 hu.10-C 2050 TGGGAGCTGCAGAAAGGAGAACAGCAAACGCTGGAATCCCGAAATTTCAGTACACTTCCAACCTACAACAAAT
 hu.4-C 2050 TGGGAGCTGCAGAAAGGAGAACAGCAAACGCTGGAATCCCGAAATTTCAGTACACTTCCAACCTACAACAAAT
 rh.54-D 2056 TGGGAGCTGCAGAAAGGAGAACAGCAAACGCTGGAATCCCGAAATTTCAGTACACTTCCAACCTACAACAAAT
 rh.48-D 2056 TGGGAGCTGCAGAAAGGAGAACAGCAAACGCTGGAATCCCGAAATTTCAGTACACTTCCAACCTACAACAAAT
 rh.55-D 2056 TGGGAGCTGCAGAAAGGAGAACAGCAAACGCTGGAATCCCGAAATTTCAGTACACTTCCAACCTACAACAAAT
 rh.62-D 2056 TGGGAGCTGCAGAAAGGAGAACAGCAAACGCTGGAATCCCGAAATTTCAGTACACTTCCAACCTACAACAAAT
 AAV7-D 2056 TGGGAGCTGCAGAAAGGAGAACAGCAAACGCTGGAATCCCGAAATTTCAGTACACTTCCAACCTACAACAAAT
 rh.52-E 2059 TGGGAGCTGCAGAAAGGAGAACAGCAAACGCTGGAATCCCGAAATTTCAGTACACTTCCAACCTACAACAAAT
 rh.51-E 2059 TGGGAGCTGCAGAAAGGAGAACAGCAAACGCTGGAATCCCGAAATTTCAGTACACTTCCAACCTACAACAAAT
 hu.39-E 2059 TGGGAGCTGCAGAAAGGAGAACAGCAAACGCTGGAATCCCGAAATTTCAGTACACTTCCAACCTACAACAAAT

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rh. 53-E	2059	TGGGAGCTGCAGAAAGGAGAAACAGCAAGCGCTGGAACCCAGAGATT	2230	2240
hu. 37-E	2059	TGGGAGCTGCAGAAAGGAGAAACAGCAAGCGCTGGAACCCAGAGATT		
rh. 43-E	2053	TGGGAGCTACAGAAAGGAGAAACAGCAAGCGCTGGAACCCGAGATCCAGTACACCTCCAACCTACTACAAAT		
rh. 50-E	2059	TGGGAGCTGCAGAAAGGAGAAACAGCAAGCGCTGGAGCCGAGAGATT		
rh. 49-E	2059	TGGGAGCTGCAGAAAGGAGAAACAGCAAGCGCTGGAACCCAGAGATT		
rh. 61-E	2059	TGGGAGCTGCAGAAAGGAGAAACAGCAAGCGCTGGAACCCAGAGATT		
hu. 41-E	2059	TGGGAGCTGCAGAAAGGAGAAACAGCAAGCGCTGGAACCCAGAGATT		
rh. 64-E	2059	TGGGAGCTGCAGAAAGGAGAAACAGCAAGCGCTGGAACCCAGAGATT		
hu. 42-E	2059	TGGGAGCTGCAGAAAGGAGAAACAGCAAGCGCTGGAACCCAGAGATT		
rh. 57-E	2059	TGGGAGCTGCAGAAAGGAGAAACAGCAAGCGCTGGAACCCAGAGATT		
hu. 40-E	2059	TGGGAGCTGCAGAAAGGAGAAACAGCAAGCGCTGGAACCCAGAGATT		
AAV8-E	2059	TGGGAGCTGCAGAAAGGAGAAACAGCAAGCGCTGGAACCCGAGATCCAGTACACCTCCAACCTACTACAAAT		
rh. 58-E	2059	TGGGAGCTGCAGAAAGGAGAAACAGCAAGCGCTGGAACCCGAGATCCAGTACATCTCCAACCTACTACAAAT		
rh. 40-E	2059	TGGGAGCTGCAGAAAGGAGAAACAGCAAGCGATGGAACCCAGAAATTCAGTACATCTCCAACCTACTACAAAT		
hu. 67-E	2059	TGGGAGCTGCAGAAAGGAGAAACAGCAAGCGCTGGAACCCGAGATTCAGTACATCTCCAACCTACTACAAAT		
hu. 17-E	2059	TGGGAGCTGCAGAAAGGAGAAACAGCAAGCGCTGGAACCCGAGATTCAGTATACCTCCAACCTATAACAAAT		
hu. 6-E	2059	TGGGAGCTGCAGAAAGGAGAAACAGCAAGCGCTGGAACCCGAGATTCAGTATACCTCCAACCTACTACAAAT		
hu. 66-E	2059	TGGGAGCTGCAGAAAGGAGAAACAGCAAGCGCTGGAACCCGAGATTCAGTACATCTCCAACCTACTACAAAT		
rh. 38-E	2059	TGGGAGCTGCAGAAAGGAGAAACAGCAAGCGCTGGAACCCGAGATTCAGTACATCTCCAACCTACTACAAAT		
hu. 32-F	2053	TGGGAGCTGCAGAAAGGAGAAACAGCAAGCGCTGGAACCCGAGATCCAGTACATCTCCAACCTATTACAAAT		
AAV9/hu	2053	TGGGAGCTGCAGAAAGGAGAAACAGCAAGCGCTGGAACCCGAGATCCAGTACATCTCCAACCTATTACAAAT		
hu. 31-F	2053	TGGGAGCTGCAGAAAGGAGAAACAGCAAGCGCTGGAACCCGAGATCCAGTACATCTCCAACCTATTACAAAT		

	2180	2190	2200	2210	2220	2230	2240
						
AAV5	2087	CCCAGTTTGTGGACTTTGCCCCGGACAGCACCGGGGAATACAGAACCCAGACCTATCGGAAACCCGATA					
AAV3-3	2123	CTGTTAATGTGGACTTTACTGTAGACACATAATGGTGTATTATAGTGAACCTCGCCCTATTGGAACCCGGTA					
AAV4-4	2117	AAACTCTCTGTTGTGGGCTCCCGATGCGGCTGGGAAATACACTGAGCCTAGGGCTATCGGTACCCGCTA					
AAV1-A	2123	CTGCCAACGTTGATTTTACTGTGGACAAACAATGGACTTTTATACTAGAGCCCTGCCCCCATTTGGCACCCGTTA					
hu. 46-A	2123	CTGCCAACGTTGATTTTACTGTGGACAAACAATGGACTTTTATACTAGAGCCCTGCCCCCATTTGGCACCCGTTA					

FIG. 3C

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hu. 48-A 2123 CTGCCAACGTTGATTTTACTGTGGACAACAATGGACTTTATATACTGAGCCTCGCCCCCATTTGGCACCCCGTTA
 hu. 44-A 2123 CTGCCAACGTTGATTTTACTGTGGACAACAATGGACTTTATATACTGAGCCTCGCCCCCATTTGGCACCCCGTTA
 hu. 43-A 2126 CTGCCAGCGTTGATTTTACTGTGGACAACAATGGACTTTATATACTGAGCCTCGCCCCCATTTGGCACCCCGTTA
 AAV6-A 2123 CTGCCAACGTTGATTTTACTGTGGACAACAATGGACTTTATATACTGAGCCTCGCCCCCATTTGGCACCCCGTTA
 hu. 34-B 2120 CTGTTAATGTGGACTTTACTGTGGACACTAATGGCGTGTATTCAGAGCCTCGCCCCCATTTGGCACCCAGATA
 hu. 47-B 2120 CTGTTAATGTGGACTTTACTGTGGACACTAATGGCGTGTATTCAGAGCCTCGCCCCCATTTGGCACCCAGATA
 hu. 29-B 2120 CTGTTAATGTGGACTTTACTGTGGACACTAATGGCGTGTATTCAGAGCCTCGCCCCCATTTGGCACCCAGATA
 hu. 63-B 2120 CTGTTAATGTGGACTTTACTGTGGACACTAATGGTGTGTATTCAGAGCCTCGCCCCCATTTGGCACCCAGATA
 hu. 56-B 2120 CTGTTAATGTGGACTTTACTGTGGACACTAATGGGGTGTATTCAGAGCCTCGCCCCCATTTGGCACCCAGATA
 hu. 45-B 2120 CTGTTAATGTGGACTTTACTGTGGACACTAATGGCGTGTATTCAGAGCCTCGCCCCCATTTGGCACCCAGATA
 hu. 57-B 2117 CTGTTAATGTGGACTTTACTGTGGACACTAATGGGGTGTATTCAGAGCCTCGCCCCCATTTGGCACCCAGATA
 hu. 35-B 2120 CTGTTAATGTGGACTTTACTGTGGACACTAATGGCGTGTATTCAGAGCCTCGCCCCCATTTGGCACCCAGATA
 hu. 58-B 2120 CTGTTAATGTGGACTTTACTGTGGACACTAATGGTGTGTATTCAGAGCCTCGCCCCCATTTGGCACCCAGATA
 hu. 28-B 2120 CTGTTAATGTGGACTTTACTGTGGACACTAATGGCGTGTATTCAGAGCCTCGCCCCCATTTGGCACCCAGATA
 hu. 51-B 2120 CTGTTAATGTGGACTTTACTGTGGACACTAATGGCGTGTATTCAGAGCCTCGCCCCCATTTGGCACCCAGATA
 hu. 19-B 2120 CTGTTAATGTGGACTTTACTGTGGACACTAATGGTGTGTATTCAGAGCCTCGCCCCCATTTGGCACCCAGATA
 hu. 49-B 2120 CTGTTAATGTGGACTTTACTGTGGACACTAATGGTGTGTATTCAGAGCCTCGCCCCCATTTGGCACCCAGATA
 hu. 52-B 2120 CTGTTAATGTGGACTTTACTGTGGACACTAATGGCGTGTATTCAGAGCCTCGCCCCCATTTGGCACCCAGATA
 hu. 13-B 2120 CTGTTAATGTGGACTTTACTGTGGACACTAATGGCGTGTATTCAGAGCCTCGCCCCCATTTGGCACCCAGATA
 AAV2-B 2120 CTGTTAATGTGGACTTTACTGTGGACACTAATGGCGTGTATTCAGAGCCTCGCCCCCATTTGGCACCCAGATA
 hu. 20-B 2120 CTGTTAATGTGGACTTTACTGTGGACACTAATGGTGTGTATTCAGAGCCTCGCCCCCATTTGGCACCCAGATA
 hu. 24-B 2120 CTGTTAATGTGGACTTTACTGTGGACACTAATGGTGTGTATTCAGAGCCTCGCCCCCATTTGGCACCCAGATA
 hu. 64-B 2120 CTGTTAATGTGGACTTTACTGTGGACACTAATGGTGTGTATTCAGAGCCTCGCCCCCATTTGGCACCCAGATA
 hu. 27-B 2120 CTGTTAATGTGGACTTTACTGTGGACACTAATGGTGTGTATTCAGAGCCTCGCCCCCATTTGGCACCCAGATA
 hu. 21-B 2120 CTGTTAATGTGGACTTTACTGTGGACACTAATGGTGTGTATTCAGAGCCTCGCCCCCATTTGGCACCCAGATA
 hu. 22-B 2120 CTGTTAATGTGGACTTTACTGTGGACACTAATGGTGTGTATTCAGAGCCTCGCCCCCATTTGGCACCCAGATA
 hu. 23-B 2120 CTGTTAATGTGGACTTTACTGTGGACACTAATGGTGTGTATTCAGAGCCTCGCCCCCATTTGGCACCCAGATA
 hu. 7-C 2120 CTGTTAATGTGGACTTTACTGTGGACACTAATGGCGTGTATTCAGAGCCTCGCCCCCATTTGGCACCCAGATA
 hu. 61-C 2120 CTGTTAATGTGGACTTTACTGTGGACACTAATGGTGTGTATTCAGAGCCTCGCCCCCATTTGGCACCCAGATA
 rh. 56-C 2120 CTGTTAATGTGGACTTTACTGTGGACACTAATGGCGTGTATTCAGAGCCTCGCCCCCATTTGGCACCCAGATA

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hu. 9-C 2120 CTGTTAATGTGGACTTTACTGTGGACACTAAATGGTGTGTATTCAGAGCCTTGCCCCCATTTGGCACCAGATA
 hu. 54-C 2117 CTGTTAATGTGGACTTTACTGTGGACACTAAATGGTGTGTATTCAGAGCCTTGCCCCCATTTGGCACCAGATA
 hu. 53-C 2117 CTGTTAATGTGGACTTTACTGTGGACACTAAATGGTGTGTATTCAGAGCCTTGCCCCCATTTGGCACCAGATA
 hu. 60-C 2120 CTGTTAATGTGGACTTTACTGTGGACACTAAATGGTGTGTATTCAGAGCCTTGCCCCCATTTGGCACCAGATA
 hu. 55-C 2117 CTGTTAATGTGGACTTTACTGTGGACACTAAATGGTGTGTATTCAGAGCCTTGCCCCCATTTGGCACCAGATA
 hu. 2-C 2120 CTGTTAATGTGGACTTTACTGTGGACACTAAATGGTGTGTATTCAGAGCCTTGCCCCCATTTGGCACCAGATA
 hu. 1-C 2120 CTGTTAATGTGGACTTTACTGTGGACACTAAATGGTGTGTATTCAGAGCCTTGCCCCCATTTGGCACCAGATA
 hu. 18-C 2120 CTGTTAATGTGGACTTTACTGTGGACACTAAATGGTGTGTATTCAGAGCCTTGCCCCCATTTGGCACCAGATA
 hu. 3-C 2123 CTGTTAATGTGGACTTTACTGTGGACACTAAATGGTGTGTATTCAGAGCCTTGCCCCCATTTGGCACCAGATA
 hu. 25-C 2120 CTGTTAATGTGGACTTTACTGTGGACACTAAATGGCGTGTACTCAGAGCCTTGCCCCCATTTGGCACCAGATA
 hu. 15-C 2120 CTGTTAATGTGGACTTTACTGTGGACACTAAATGGTGTGTATTCAGAGCCTTGCCCCCATTTGGCACCAGATA
 hu. 16-C 2120 CTGTTAATGTGGACTTTACTGTGGACACTAAATGGTGTGTATTCAGAGCCTTGCCCCCATTTGGCACCAGATA
 hu. 11-C 2120 CTGTTAATGTGGACTTTACTGTGGACACTAAATGGTGTGTATTCAGAGCCTTGCCCCCATTTGGCACCAGATA
 hu. 10-C 2120 CTGTTAATGTGGACTTTACTGTGGACACTAAATGGTGTGTATTCAGAGCCTTGCCCCCATTTGGCACCAGATA
 hu. 4-C 2120 CTGTTAATGTGGACTTTACTGTGGACACTAAATGGTGTGTATTCAGAGCCTTGCCCCCATTTGGCACCAGATA
 rh. 54-D 2126 AGACTGGTGTGGACTTTGCCGTTGACAGCCAGGGTGTATTTCTGAGCCTTGCCCCCATTTGGTACTCGTTA
 rh. 48-D 2126 AGACTGGTGTGGACTTTGCCGTTGACAGCCAGGGTGTATTTCTGAGCCTTGCCCCCATTTGGTACTCGTTA
 rh. 55-D 2126 AGACTGGTGTGGACTTTGCCGTTGACAGCCAGGGTGTATTTCTGAGCCTTGCCCCCATTTGGTACTCGTTA
 rh. 62-D 2126 AGACTGGTGTGGACTTTGCCGTTGACAGCCAGGGTGTATTTCTGAGCCTTGCCCCCATTTGGTACTCGTTA
 AAV7-D 2126 AGACTGGTGTGGACTTTGCCGTTGACAGCCAGGGTGTATTTCTGAGCCTTGCCCCCATTTGGCACTCGTTA
 rh. 52-E 2129 CTACAAATGTGGACTTTGCTGTTAATACTGAGGGTGTATTTCTGAGCCTTGCCCCCATTTGGCACTCGTTA
 rh. 51-E 2129 CTACAAATGTGGACTTTGCTGTTAATACTGAGGGTGTATTTCTGAGCCTTGCCCCCATTTGGCACTCGTTA
 hu. 39-E 2129 CTACAAATGCGGACTTTGCTGTTAATACTGAGGGTGTATTTCTGAGCCTTGCCCCCATTTGGCACTCGTTA
 rh. 53-E 2129 CTACAAATGTGGACTTTGCTGTTAATACTGAGGGTGTATTTCTGAGCCTTGCCCCCATTTGGCACTCGTTA
 hu. 37-E 2129 CTACAAATGTGGACTTTGCTGTTAATACTGAGGGTGTATTTCTGAGCCTTGCCCCCATTTGGTACTCGTTA
 rh. 43-E 2123 CTACAAAGTGTGGACTTTGCTGTTAATACTGAGGGTGTATTTCTGAGCCTTGCCCCCATTTGGCACCCTGTTA
 rh. 50-E 2129 CTACAAATGTGGACTTTGCTGTTAATACTGAGGGTGTATTTCTGAGCCTTGCCCCCATTTGGCACTCGTTA
 rh. 49-E 2129 CTACAAATGTGGACTTTGCTGTTAATACTGAGGGTGTATTTCTGAGCCTTGCCCCCATTTGGCACTCGTTA
 rh. 61-E 2129 CTACAAATGTGGACTTTGCTGTTAATACTGAGGGTGTATTTCTGAGCCTTGCCCCCATTTGGCACTCGTTA
 hu. 41-E 2129 CTACAAATGTGGACTTTGCTGTTAATACTGAGGGTGTATTTCTGAGCCTTGCCCCCATTTGGTACTCGTTA

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rh. 64-E 2129 CTACAAATGTGGACTTTGCTGTTAATACTAGAGGGTGTACTCTGAGCCTCGCCCCCATTTGGCACTCGTTA
 hu. 42-E 2129 CTACAAATGTGGACTTTGCTGTCTCAATACAGAGGGAACCTATTCTGAGCCTCGCCCCCATTTGGTACTCGTTA
 rh. 57-E 2129 CTACAAATGTGGACTTTGCTGTTAATACTAGAGGGTGTACTCTGAGCCTCGCCCCCATTTGGCACTCGTTA
 hu. 40-E 2129 CTACAAATGTGGACTTTGCTGTCTCAATACAGAGGGAACCTATTCTGAGCCTCGCCCCCATTTGGTACTCGTTA
 AAV8-E 2129 CTACAAAGTGTGGACTTTGCTGTTAATAACAGAGGCGGTGACTCTGAACCCCGCCCCCATTTGGCACCCGTTA
 rh. 58-E 2129 CTACAAATGTGGACTTTGCTGTTAATACTAGAGGGTGTACTCTGAGCCTCGCCCCCATTTGGCACTCGTTA
 rh. 40-E 2129 CTACAAATGTGGACTTTGCTGTCTCAATCTGAGGGTACATATTCTGAGCCTCGCCCCCATTTGGTACTCGTTA
 hu. 67-E 2129 CTACAAATGTGGACTTTGCTGTCTCAATACAGAGGGAACCTATTCTGAGCCTCGCCCCCATTTGGTACTCGTTA
 hu. 17-E 2129 CTGTTAATGTGGACTTTACTGTGGACACTAATGGTGTGTATTCTGAGCCTCGCCCCCATTTGGCACCCAGATA
 hu. 6-E 2129 CTACAAATGTGGACTTTGCTGTCTCAATCTGAGGGTACTTATTCTGAGCCTCGCCCCCATTTGGCACCCGTTA
 hu. 66-E 2129 CTACAAATGTGGACTTTGCTGTCTCAATACAGAGGGAACCTATTCTGAGCCTCGCCCCCATTTGGTACTCGTTA
 rh. 38-E 2129 CTACAAATGTGGACTTTGCTGTCTCAATACAGAGGGAACCTATTCTGAGCCTCGCCCCCATTTGGTACTCGTTA
 hu. 32-F 2123 CTAATAAATGTTGAATTTGCTGTTAATACTGAAGGTGTATATAGTGAACCCCGCCCCCATTTGGCACCCAGATA
 AAV9/hu 2123 CTAATAAATGTTGAATTTGCTGTTAATACTGAAGGTGTATATAGTGAACCCCGCCCCCATTTGGCACCCAGATA
 hu. 31-F 2123 CTAATAAATGTTGAATTTGCTGTTAGTACTGAAGGTGTATATAGTGAACCCCGCCCCCATTTGGCACCCAGATA

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....|....|....|....|
 AAV5 2157 CCTTACCCGACCCCTT----
 AAV3-3 2193 TCTCACACGAAACTTG----
 AAV4-4 2187 CCTACCCACCCACCTGTAA-
 AAV1-A 2193 CCTTACCCGTCCTCCCTGTAA-
 hu. 46-A 2193 CCTTACCCGTCCTCCCTGTAA-
 hu. 48-A 2193 CCTTACCCGTCCTCCCTGTAA-
 hu. 44-A 2193 CCTTACCCGTCCTCCCTGTAA-
 hu. 43-A 2196 CCTTACCCGTCCTCCCTGTAA-
 AAV6-A 2193 CCTACCCGTCCTCCCTGTAA-
 hu. 34-B 2190 CTGACTCGTAATCTGTAA-
 hu. 47-B 2190 CTGACTCGTAATCTGTAA-
 hu. 29-B 2190 CTGACTCGTAATCTGTAA-

FIG. 3CK

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hu.63-B	2190	CCTGACTCGTAATCTGTAA-
hu.56-B	2190	CCTGACTCGTAATCTGTAA-
hu.45-B	2190	CCTGACTCGTAATCTGTAA-
hu.57-B	2187	CCTGACTCGTAATCTGTAA-
hu.35-B	2190	CCTGACTCGTAATCTGTAA-
hu.58-B	2190	CCTGACTCGTAATCTGTAA-
hu.28-B	2190	CCTGACTCGTAATCTGTAA-
hu.51-B	2190	CCTGACTCGTAATCTGTAA-
hu.19-B	2190	CCTGACTCGTAATCTGTAA-
hu.49-B	2190	CCTGACTCGTAATCTGTAA-
hu.52-B	2190	CCTGACTCGTAATCTGTAA-
hu.13-B	2190	CCTGACTCGTAATCTGTAA-
AAV2-B	2190	CCTGACTCGTAATCTGTAA-
hu.20-B	2190	CCTGACTCGTAATCTGTAA-
hu.24-B	2190	CCTGACTCGTAATCTGTAA-
hu.64-B	2190	CCTGACTCGTAATCTGTAA-
hu.27-B	2190	CCTGACTCGTAATCTGTAA-
hu.21-B	2190	CCTGACTCGTAATCTGTAA-
hu.22-B	2190	CCTGACTCGTAATCTGTAA-
hu.23-B	2190	CCTGACTCGTAATCTGTAA-
hu.7-C	2190	CCTGACTCGTAATCTGTAA-
hu.61-C	2190	CCTGACTCGTAATCTGTAA-
rh.56-C	2190	CCTGACTCGTAATCTGTAA-
hu.9-C	2190	CCTGACTCGTAATCTGTAA-
hu.54-C	2187	CCTGACTCGTAATCTGTAA-
hu.53-C	2187	CCTGACTCGTAATCTGTAA-
hu.60-C	2190	CCTGACTCGTAATCTGTAA-
hu.55-C	2187	CCTGACTCGTAATCTGTAA-
hu.2-C	2190	CCTGACTCGTAATCTGTAA-
hu.1-C	2190	CCTGACTCGTAATCTGTAA-

FIG. 3CL

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hu.18-C	2190	CCGACTCGTAATCTGTAA-
hu.3-C	2193	CCTGACTCGTAATCTGTAA-
hu.25-C	2190	CCTGACTCGTAATCTGTAA-
hu.15-C	2190	CCTGACTCGTAATCTGTAA-
hu.16-C	2190	CCTGACTCGTAATCTGTAA-
hu.11-C	2190	CCTGACTCGTAATCTGTAA-
hu.10-C	2190	CCTGACTCGTAATCTGTAA-
hu.4-C	2190	CCTGACTCGTAATCTGTAA-
rh.54-D	2196	CCTCACCCGTAATCTGTAA-
rh.48-D	2196	CCTCACCCGTAATCTGTAA-
rh.55-D	2196	CCTCACCCGTAATCTGTAA-
rh.62-D	2196	CCTCACCCGTAATCTGTAA-
AAV7-D	2196	CCTCACCCGTAATCTGTAA-
rh.52-E	2199	CCTCACCCGTAATCTGTAA-
rh.51-E	2199	CCTCACCCGTAATCTGTAA-
hu.39-E	2199	CCTCACCCGTAATCTGTAA-
rh.53-E	2199	CCCCACCCGTAATCTGTAA-
hu.37-E	2199	CCTCACCCGTAATCTGTAA-
rh.43-E	2193	CCTCACCCGTAATCTGTAA-
rh.50-E	2199	CCTCACCCGTAATCTGTAA-
rh.49-E	2199	CCTCACCCGTAATCTGTAA-
rh.61-E	2199	CCTCACCCGTAATCTGTAA-
hu.41-E	2199	CCTCACCCGTAATCTGTAA-
rh.64-E	2199	CCTCACCCGTAATCTGTAA-
hu.42-E	2199	CCTCACCCGTAATCTGTAA-
rh.57-E	2199	CCTCACCCGTAATCTGTAA-
hu.40-E	2199	CCTCACCCGTAATCTGTAA-
AAV8-E	2199	CCTCACCCGTAATCTGTAA-
rh.58-E	2199	CCTCACCCGTAATCTGTAA-
rh.40-E	2199	TCGACACGTAATCTGTAA-

FIG. 3CM

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hu.67-E	2199	CCTCACCCCGTAATCTGTAA-
hu.17-E	2199	CCTGACTCGTAATCTGTAA-
hu.6-E	2199	CCTCACCCCGTAACCTGTAA-
hu.66-E	2199	CCTCACCCCGTAATCTGTAA-
rh.38-E	2199	CCTCACCCCGTAATCTGTAA-
hu.32-F	2193	CCTGACTCGTAATCTGTAA-
AAV9/hu	2193	CCTGACTCGTAATCTGTAA-
hu.31-F	2193	CCTGACTCGTAATCTGTAA-

FIG. 3CN

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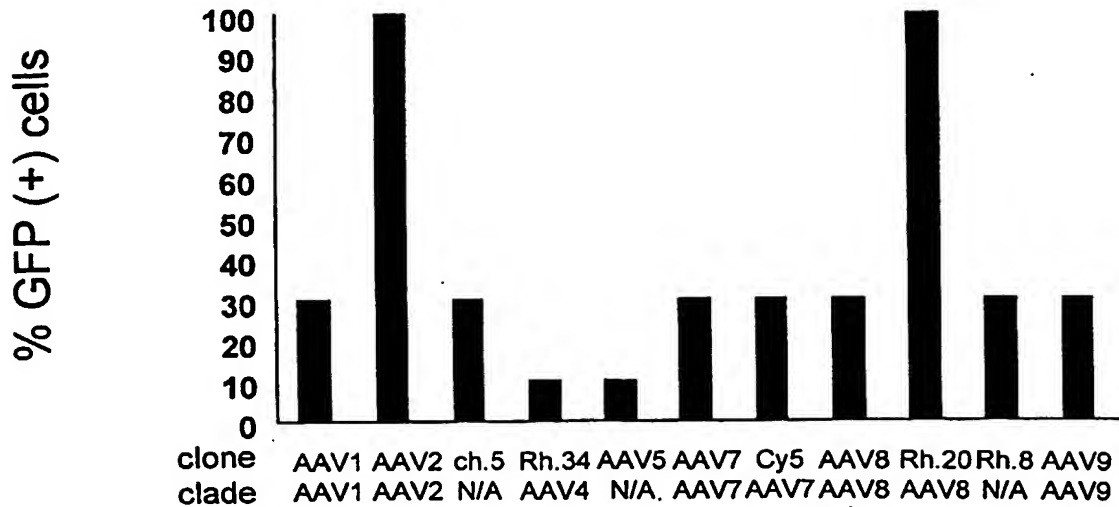


Fig. 4A

In Vitro

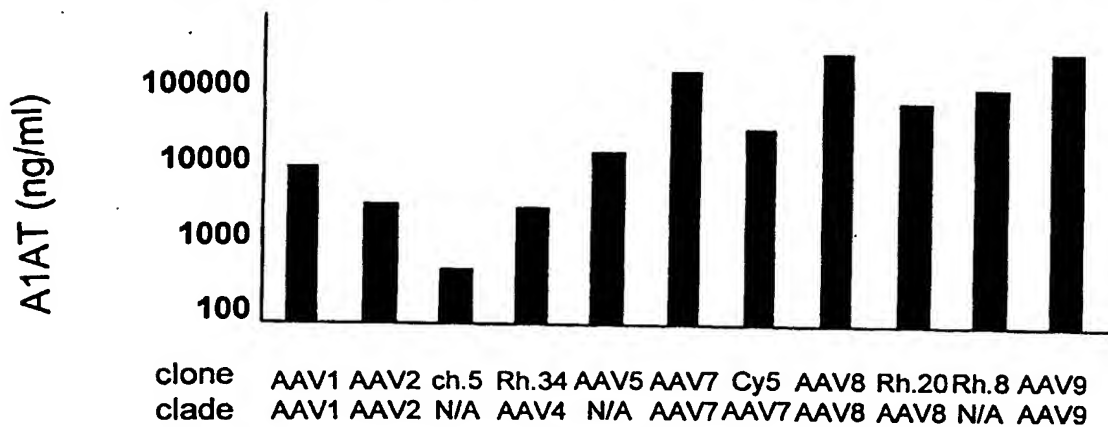


Fig. 4B

Liver

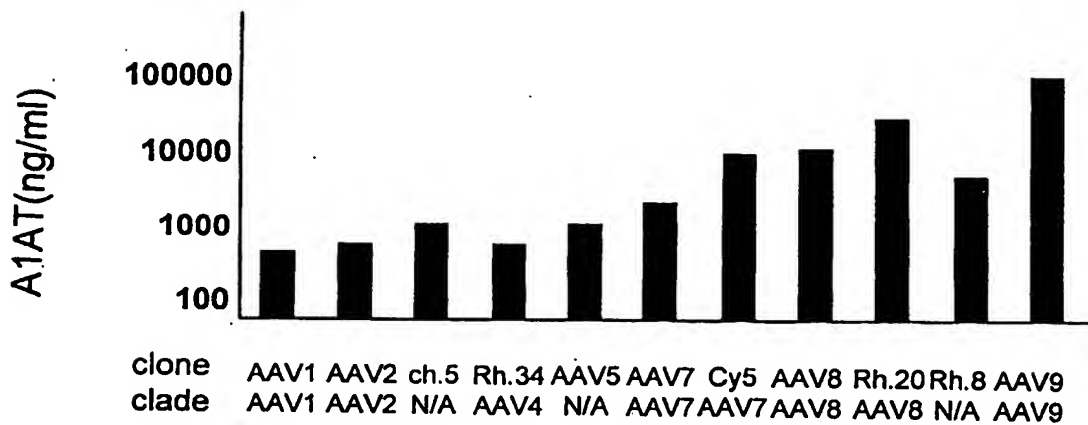


Fig. 4C

Lung

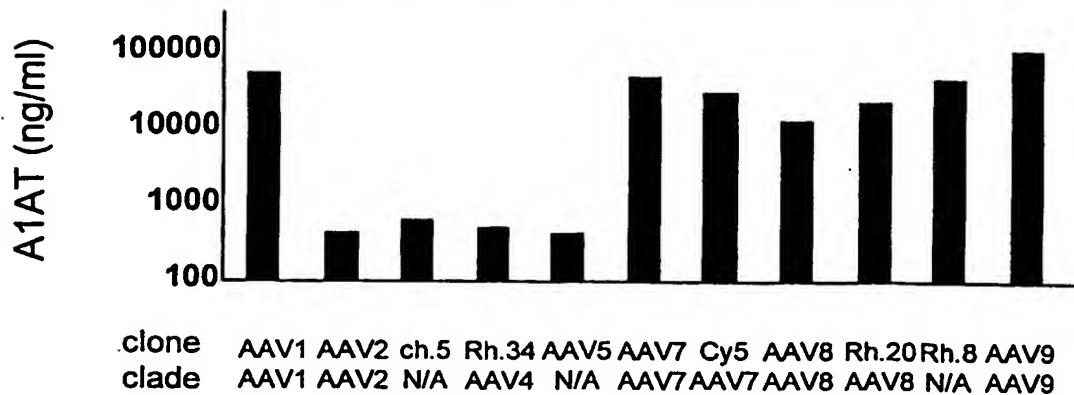


Fig. 4D

Muscle

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